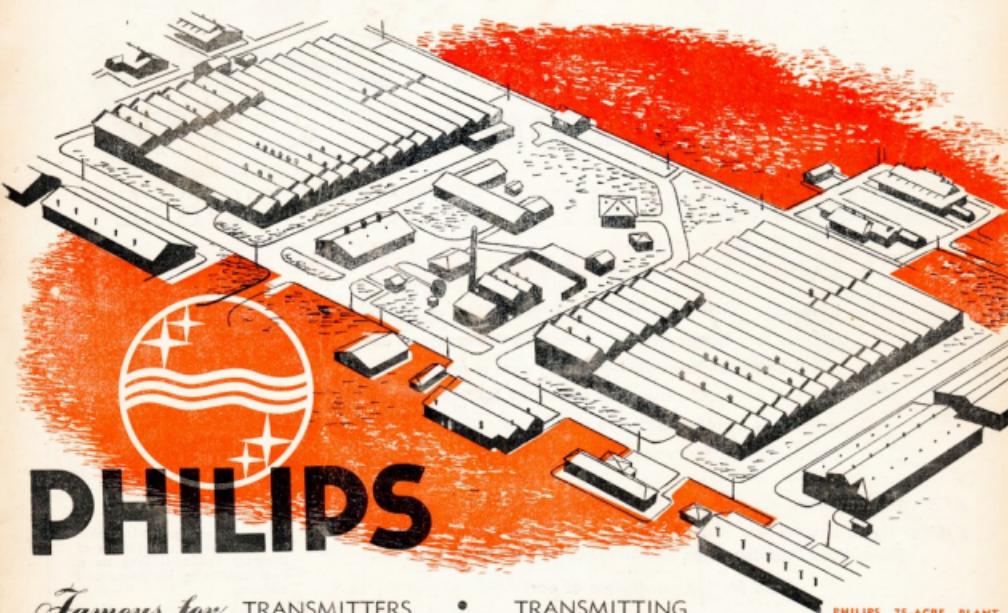


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JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

MARCH

1948



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AMATEUR RADIO

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EDITORIAL



BAND OCCUPANCY

Probably the most important question confronting the Radio Amateur to-day is the international allocation of frequencies, and in particular, how he will fare in the matter of allocation of Amateur Bands.

The Wireless Institute of Australia has been fortunate in having enjoyed close and sympathetic co-operation with the Postmaster - General's Department whose Radio Inspectors have done their utmost to facilitate the use by Amateur Stations of as much of the Spectrum as possible under the existing international plan.

Under the new allocations determined at Atlantic City, Amateurs will receive several new bands which will serve in some measure to offset the loss of other portions of the spectrum which we have had to accept with considerable reluctance.

The vital thing for Amateurs to remember is that these new bands must be used adequately and as quickly as possible unless we are prepared to suffer criticism for their disuse.

The Federal Executive is now discussing with the Department the question of Amateur Bands in our zone, and it is essential that we shall be able to give an assurance that when the com-

plete allocations are promulgated immediate use will be made of them.

One of the most difficult problems confronting the Federal Executive is to explain why the twenty metre band is so sadly misused for short haul contracts which could be carried out on V.H.F. bands and also why such lengthy conversations on trivial matters continue to cause congestion on a band which we are always claiming is too narrow now to accommodate all our stations.

In view of the increase in Amateur Stations throughout the world, we need to employ our bands to the best advantage or we can be sure that the ever-watchful commercial interests will endeavour to whittle down our hard won bands until there is nothing left except on extremely high frequencies.

The same argument can be used for the use of frequency modulation and pulse transmissions, the retention of which we may one day be asked to justify.

The Federal Executive intends to organise suitable contests to popularise the newer bands, but the influx to these new regions lies with each and every Amateur who is a true experimenter and really wants to enjoy Amateur Radio to the full.

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A BAND SWITCHING CONVERTER FOR THE V.H.F.s.

BY J. C. DUNCAN*, VK3VZ

In common with many other Amateurs who are now contemplating ways and means of venturing into the High Frequency spectrum, the writer felt the need of increasing the operating range of the normal station receiver, so that reception would be available up to the 166 Mc. band. In addition the performance of all receivers used on the lower frequencies, shows a marked falling off in performance above 22 Mc. so that any converter, which is the logical way of making this expansion, should start at the 28 Mc. band, followed by the 50-54 Mc. and then the 166-170 Mc. band.

Another important point to be considered is the fact that quite a few Amateurs are in possession of receivers from Disposals, which only go as high as 22 Mc., which also indicates 22 Mc. as the starting point.

In the writer's case the station receiver is an AMR200, which is the Australian version of the Super Pro, and it was decided that the converter be mounted in the compartment in the power supply chassis, which normally houses the power lead and cables. This compartment is quite small, being 7" high, 3½" wide, and 12" deep, hence the unusual shape of the Converter, for due to the lack of available space, it was necessary to utilize every square inch available. Another problem which had to be solved here was the one of band changing, and it was obvious that the only way would be band switching. Frankly the writer was very dubious of switching coils at 166 Mc., but was amazed to find that results on this band compared more than favourably with an A.S.V. receiver, and showed a marked superiority in signal to noise ratio.

Before commencing with the design and construction of the Converter, it was decided to use an old converter which the writer had on hand, to conduct some experiments to determine whether it would be possible to use some form of dial-less converter, or broad band r.f. stages, and thereby simplify the design. Results in this direction were disappointing, and the conclusion was reached that these methods were satisfactory if one is willing to accept reduced performance. The first test was made along the dial-less converter lines, the converter oscillator was fixed at 20 Mc. and the receiver tuned between the limits of 7 Mc. and 10 Mc., giving a range of 27 to 30 Mc. It was found necessary to have a co-axial line connecting the receiver to the converter, and both receiver and converter completely shielded, to prevent pick-up of strong signals in the region of 7-10 Mc.

However with all these precautions a few strong signals did appear at about strength 4. Another very strong carrier, picked up at 29.2 Mc. approximately, proved to be a harmonic of the receiver oscillator, which would have a very great nuisance value. The system also showed very uneven sensitivity due to

when resistors were used to load the r.f. and mixer signal circuits, therefore it was obvious that the reduction in "Q" was bringing about a reduction in signal to noise ratio, because the tube noise was unaltered.

It was decided therefore that the best arrangement would be to use the conventional method of approach to the problem, and use the receiver as a fixed i.f. frequency, and tune the converter.

The remaining points to be decided were the choice of the first i.f. frequency, and the overcoming of the receiver oscillator harmonics falling within the bands to be covered. Actually these two problems are tied together to some extent, as by changing the receiver i.f., we also change the receiver oscillator frequency, and with it the position of its harmonics throughout the high frequency spectrum. This problem was solved by considering what frequencies the receiver oscillator could be operated on, which would enable the harmonics to clear the bands covered by the Converter. As a first i.f. frequency of about 10 Mc. had been decided upon as being the best frequency for the Converter, a

the output transformer of the Converter being untuned, whilst the first i.f. (the receiver) was varied. Attempts were made to broaden the resonance of this circuit by loading with a resistance, but this resulted in a marked decrease in the sensitivity of the Converter, although the circuit was broadened to the required amount. This same marked drop in sensitivity was also evident

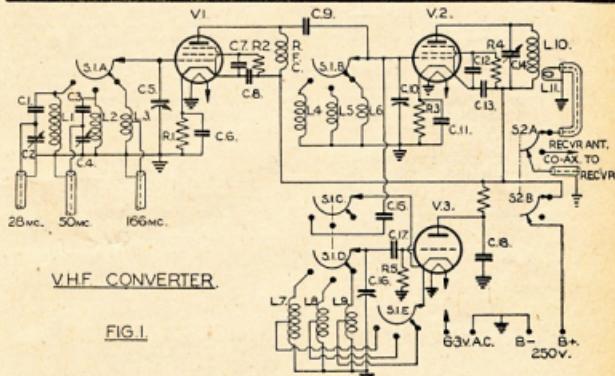


FIG. 1

C1, C3, C15—5 pF. Ceramicon.
C2, C4—5-30 pF. variable.
C5, C10—15 pF. variable with 2 rotor and 3 stator plates.
C6, C11—0.001 uF.
C7, C8, C12, C18—100 pF. mica.
C9—50 pF. (N.P.O.) Ceramicon.
C13—0.01 uF.
C14—3-30 pF. mica trimmer.
C16—15 pF. variable with 1 rotor and 2 stator plates.
C17—50 pF. (N750)
R1, R3—250 ohms wire wound resistor.
R2, R4, R5—50,000 ohms.
R6—30,000 ohms.
S1a-e—3 bank 3 pole 3 position Ceramic wafer switch.
S2a, b—d.p.t. switch.
R.F.C.—2.5 mH. r.f. choke.
V1 V2—6AG5 peanut valves.
V3—9002 peanut valve.
L1—28 Mc. aerial, 10 turns ½" diam. ¾" long, 18 s.w.g. enamel.

L2—50 Mc. aerial, 6 turns ½" diam. 1" long, 18 s.w.g. enamel.
L3—166 Mc. aerial, 14 s.w.g. tinned copper, 13" long overall with small "U" in centre ¾" high and 4" wide, tapped at top of "U".
L4—28 Mc. mixer, 10 turns ½" diam. ¾" long, 18 s.w.g. enamel.
L5—50 Mc. mixer, 6 turns ½" diam. 1" long, 18 s.w.g. enamel.
L6—166 Mc. mixer, 14 s.w.g. tinned copper.
L7—28 Mc. osc., 10 turns ½" diam. ¾" long, 18 s.w.g. enamel, tapped at 3 turns from ground.
L8—50 Mc. osc., 6 turns ½" diam. 1" long, 18 s.w.g. enamel, tapped at 2 turns from ground.
L9—166 Mc. osc., 9 turns ½" diam., close-wound, 18 s.w.g. enamel, tapped at 3 turns from ground.
L10—9.545 Mc. i.f., 38 turns ½" diam., closewound, 29 s.w.g. enamel.
L11—I.F. link, 3 turns 29 s.w.g. enamel.

*Technical Editor: 23 Parkside Avenue, Balwyn, Victoria.

few calculations showed that the following frequencies would be suitable for our receiver oscillator:

Receiver oscillator 9 Mc.—3rd harmonic 27 Mc., 6th harmonic 54 Mc., 19th harmonic 171 Mc., and all other harmonics would clear the bands.

Receiver oscillator 10 Mc.—3rd harmonic 30 Mc., 5th harmonic 50 Mc., 17th harmonic 170 Mc.

Receiver oscillator 11 Mc.—3rd harmonic 33 Mc., 5th harmonic 55 Mc., 15th harmonic 165 Mc.

From the above figures it can be seen that if the receiver is set so that the oscillator is on any of the above frequencies, oscillator harmonics will be either on the band edge or clear of the band. The decision was made to operate the receiver oscillator on 10 Mc., so that the harmonics could be used to mark the band edges, and therefore convert the harmonics from a nuisance into an asset.

If it is required to measure the band edges with a great degree of accuracy, any receiver capable of tuning in WWV on 10 Mc. is used, and the receiver connected to the Converter varied until the receiver oscillator is heard to zero beat with WWV. This will mean the receiver is set up for a first i.f. frequency of 9.545 Mc. if the receiver has an i.f. of 435 Kc., and the oscillator is operated on the high frequency side of the signal frequency. As very strong signals are received on frequencies as high as 170 Mc., excellent band edge markers are available.

This attack on the receiver oscillator harmonic problem, is the simplest that the writer could find which would be 100% effective, as no amount of shielding or isolation reduced these signals to a negligible amount. The only method not tried was a low-pass filter, with a cut off point at 10 Mc. located in the co-axial line between the receiver and converter, because it was obvious from the tests that this line was carrying the harmonics to the converter. This method was discarded because it had been decided to install a switch in the Converter to connect the co-axial line from the receiver, either into the Converter output, or the normal receiving antenna, and any filter in this line would be in series with the receiving antenna when the Converter was not in use.

CIRCUIT After these preliminary experiments the circuit was drawn and the Converter built, and it was found that there were still a few problems to be overcome, so we will discuss these items whilst describing the circuit.

As can be seen from the circuit diagram in Fig. 1, three separate co-axial inputs are provided for each band, because at these frequencies, beams, ground plane, or vertical antennae would be used, each with its own individual co-axial line, thereby avoiding the necessity of switching the input circuits in the Converter. On 28 and 50 Mc. bands the co-axial lines are matched by a capacity network across the grid coil, and by varying the 3-30 pF. trimmers and the inductances, it is possible

to find values of each which will give the best signal strength for the antenna used.

This will indicate a correct match between the co-axial impedance and the impedance of the grid circuit. These circuits once set require no further adjustment. A similar system was tried at 166 Mc. but it was found necessary to load the grid circuit by tapping the co-axial line up the grid coil, to prevent the r.f. stage oscillating at this frequency. It was also found necessary to have cathode by-passes of 0.001 μ F. in both r.f. and mixer circuits to prevent oscillation at 28 Mc. The screen and plate by-passes are connected to the other end of the cathode to that occupied by the cathode resistor and by-pass, for in all v.h.f. tubes, the cathode is brought out to two separate socket pins. The plate of the r.f. stage is capacity coupled to the mixer grid circuit, as experiments showed this coupling to be just as effective as the separate primary winding at these frequencies, and it also simplified our switching. The output circuit of the mixer is tuned to 9.545 Mc., as mentioned previously, and is tuned by a 3-30 pF. condenser. The output link is brought through a co-axial line to a double pole, double throw switch, which connects the co-axial line from the receiver, either to the output of the Converter, or to the normal receiving antenna, which connects to a terminal on the Converter. The second pole of the switch, cuts the h.t. to the Converter when it is not in use.

The oscillator is a grounded plate Hartley, and injection into the mixer grid circuit is obtained by taking output from the cathode tap, and feeding it through a small capacity to the mixer grid. The value of this capacity is altered by switch section S1C, as a value suitable for 28 Mc. is far too great for 166 and 50 Mc. Experiments showed that the capacity existing in the switch contacts gave the correct amount of injection, together with the pick-up from the lead running from the oscillator cathode tap into the mixer shield compartment, for 50 and 166 Mc. operation. On 28 Mc. this degree of coupling was not nearly great enough, so the small Ceramicon is switched in to overcome this.

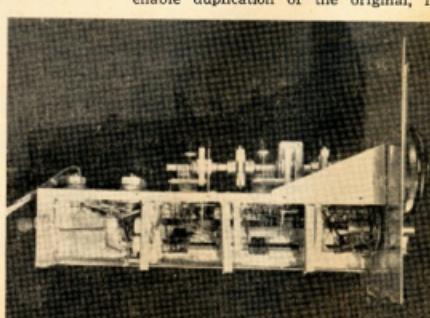
It is opportune at this time to mention several difficulties which had to be overcome before correct operation of the Converter could be obtained. The first problem occurred on the 28 Mc. band, where the oscillator was operated on the low frequency side of the signal circuits, i.e. from 17.455 to 20.455 Mc. A bad case of double spotting occurred, the image occurring about 1 Mc. from the signal. Lack of image reactivity of the receiver used with the Converter was suspected, but this did not prove to be the reason.

The true reason proved to be due to the following fact—with the converter oscillator on the low frequency side of the signal circuits, images would be received from stations twice the first i.f. frequency away, that is, from 7.910 to 10.910 Mc., which it will be noted, covers the converter output frequency, or first i.f. of 9.545 Mc. This meant that the Converter was receiving the signal in the normal manner, converting it to 9.545 Mc., and then the oscillator was again beating with this signal, and re-converting it to the first i.f. frequency when the Converter was tuned away slightly from the signal frequency. Because this first i.f. signal existed in the mixer circuit, it can be seen that there would be no attenuation by the signal circuits (i.e. the r.f. and mixer grid circuits) which would make the image extremely strong. The remedy of course was simply to operate the oscillator on the high frequency side of the signal frequency for 28 Mc. operation.

On the 50-54 Mc. band the oscillator is operated on the low frequency side of the signal, and no trouble was encountered here.

The 166 Mc. band was tackled next, and it was found that the oscillator dropped out of oscillation at about 145 Mc., and could not be coaxied back. From about 120 Mc. the output of the oscillator had shown a decided dropping off in output, so it was decided to use the second harmonic of the oscillator and run it in the region of 80 Mc. The output on the second harmonic was found to be greater than the fundamental when operated in this manner; that is comparing the output on the second harmonic of 80 Mc. against the fundamental on 145 Mc., which was as high as the oscillator would operate. In addition the oscillator was much more stable, and the all round performance of the Converter was now such that the three bands tuned just as easily as the normal receiver on lower frequencies.

LAYOUT Up to now no comments have been made on the physical layout of the Converter, although it is quite obvious that the success or failure of a unit of this kind is entirely dependant on it, particularly with band-switching. In case some of the components are not available to enable duplication of the original, it



would be as well to describe the method of setting out, so that the length of all leads will be at a minimum, in the circuits which require them to be that way, and it must be borne in mind that preference must be given to the highest band covered.

The three condensers were fitted with their flexible couplings, and laid out on the table, measurements were then made of the distance between the three bearings, thereby giving the distance between the front panel, and the following two mounting brackets for the condensers. The switch banks were then laid under the condensers, so that the switch connections are directly under their respective stator connections of the condensers, then allowing for the 1" mounting pillars for the switch banks, the distance between the shield divisions can be obtained. The actual width of the Converter is largely a matter of individual choice, as some may prefer to make the unit self contained, with built-in power supply; however the distance from front panel to the dividing partitions must be exactly right if all leads are to be kept to a minimum.

In the illustration it will be noted that there are four main shielded compartments. The rear compartment contains the power input, co-axial inputs for the three bands, co-axial outlet to receiver, which is the rear outlet of the four, antenna terminal for receiver projecting from rear of Converter, air trimmers for 28 and 50 Mc. bands, and finally the d.p.d.t. rotary switch for changing the Receiver from Converter to receiving antenna.

The next compartment houses the r.f. stage, following which is the mixer compartment, with the output coil in the small shield above the chassis.

The front compartment, nearest the front panel, is the oscillator section of the Converter.

In Fig. 2 the drawing shows the essential components in the mixer compartment. The drawing has been made with the Converter in an inverted position, viewed from front to rear, and shows both a plan and elevation. In the plan view, the pigtail of the condenser rotor projects through a hole cut in the chassis, and a heavy 14 gauge wire is soldered to the pigtail at this point and brought up in a curve to provide a point for the cold ends of the coils.

Another hole is drilled in the chassis, directly under the stator tie point, and the lead from there is brought directly on to the wiping contact of the switch

bank. The wire running from the No. 1 contact of the bank to the condenser pigtail, is the 166 Mc. inductance, for even with the reduction of lead length to a minimum, there is still sufficient inductance in the wiring and switch contacts to need only a straight wire to complete the coil. This fact does not appear to be detrimental to the operation of the circuit, as quite a reasonable peak in signal is obtained when the aerial and mixer circuits are tuned.

The grid pin on the mixer socket is located so that this lead is kept to a minimum. If a straight wire is not found to have sufficient inductance, it is advisable to use a hairpin coil here. The 50 and 28 Mc. coils are located where shown, with preference on shortness of leads given to the 50 Mc. band.

These coils are adjusted by holding a soldering iron at the point X, where they connect to the main 14 gauge supporting wire, and drawing the coils in and out, spring fashion, to obtain the correct inductance. Final tuning can then be done by slightly separating the turns of the coils with a screwdriver. These methods of coil adjustment, have

ment of the coils is made with the spreading and contracting of the turns by means of the screwdriver.

The steel rod which turns the switch banks was cut off near the clicker plate, and a piece of bakelite rod filed to replace it. This was done to remove as much metal as possible from the fields of the coils. The aerial change-over switch was also controlled by a bakelite rod, for the same reason.

The three variable condensers used were stripped down to give a large degree of band-spreading, and in the finished Converter the following ranges were obtained:—26.9 to 30.4 Mc., 49.9 to 55.2 Mc., 160 to 172 Mc. The oscillator condenser was reduced to one rotor and two stator, and the r.f. and mixer condensers to two rotor and three stator plates. With this arrangement of capacities it was found that the tracking was quite satisfactory on all bands.

ALIGNMENT One of the main problems associated with any piece of equipment such as this, is the problem of finding the band on these frequencies, particularly on 166 Mc. The 50 Mc. band is not so difficult and the 28 Mc. band quite easy with the activity now to be found there. Therefore it is advisable to get the Converter working on 28 Mc. first, following with 50 Mc. and then 166 Mc. The Receiver should be set to 9.545 Mc. as previously described, and the Converter output circuit peaked to give the greatest noise.

An Alignment Oscillator is then set to 28 Mc. and the 28 Mc. band set to the correct setting on the dial. If it is desired to cover the 27 Mc. section of the band, the Oscillator should be set to 27 Mc. and the oscillator coil in the Converter adjusted to bring the signal in at nearly full scale, then with an antenna attached the signal circuits are set for maximum noise, by peaking at the middle of the band. The 50 Mc. band is adjusted in a similar fashion, except that the Alignment Oscillator is adjusted to 25 Mc. and the second harmonic used to locate the band. With the Receiver oscillator set on exactly 10 Mc., as previously described the 50 Mc. point will be indicated by a strong signal being received from the 5th harmonic from the Receiver.

After these two bands have been set up, it is necessary to locate the 166 Mc. band. If a calibrated Wavemeter is available, it is only necessary to tune in one of the Receiver oscillator harmonics and then vary the Wavemeter until the oscillator pulls out of oscillation. The oscillator coil should then be altered until it pulls out at 85 Mc., which should then place the Converter on 170 Mc., as the second harmonic is used. A signal is then tuned in and with the three condenser couplings disconnected, each condenser varied to give maximum gain. It should be noted that it is necessary to connect an antenna during these adjustments, to avoid oscillation in the r.f. stage. Even a short piece of wire is all that is necessary. The frequency is finally checked by link coupling the Wavemeter in series with the

(Continued on page 7)

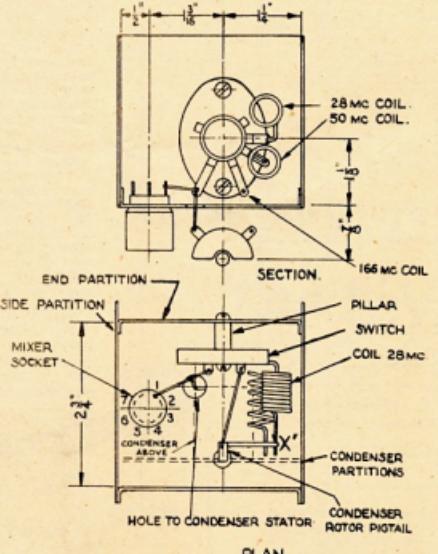


FIG. 2.

proved most effective, and it is surprising the large range of frequency over which the Converter can be varied.

The two side shields of the Converter are removed for wiring and adjustment of the coils in an approximate manner. With the shields in place fine adjust-

A Flextal Conversion Exciter Unit

(Courtesy Radio Publications Incorporated)

BY A. K. McLENNAN*, VK3AKM

This unit, made of the variable frequency type, first made its appearance in "The Jones Radio Handbook," fifth edition.

The principle of operation is to beat a variable frequency against a fixed frequency and have the resultant "beat" frequency in a useful spectrum. Thus by having a fixed frequency of 4,300 Kc, and beating against it another, variable from 300 Kc. to 550 Kc., the resultant "beat" will be variable between 3.5 Mc. and 3.75 Mc. This will cover half the 3.5 Mc. band, more than twice the 7 Mc. and 14 Mc. bands, and all of the 28 Mc. band. This provides a very useful coverage.

In the unit to be described, the fixed frequency is obtained from a Pierce Crystal Oscillator, using a 6C5 triode, while the variable is from a Hartley type of self-excited oscillator, using a 6F6 as a triode. The beat frequency is obtained from the plate circuit of an 802, this tube being used as a mixer.

In the opinion of the writer, points in favour of this unit are:

1—Stability of a self-excited oscillator is much easier to obtain on the comparatively low frequencies of the broadcast band than on the Ham bands.

2—When using the usual type of v.f.o. on a low frequency, each time the fundamental is moved 1 Kc., the operating frequency is moved by the amount of multiplication. With this unit the output is in the 3.5 Mc. band and moving the low frequency oscillator 1 Kc. only moves the "beat" frequency 1 Kc. This allows for very easy operation when one wishes to QSY.

The constructional details are not in any way complex, all that is necessary is to make sure it is a solid job, putting each tube and its components in a separate compartment, drill "breather"

holes in the top of the cabinet over each tube, with a shield around the 802 to the same height as the cabinet, and mount the voltage divider externally, so that there is a minimum of heating of the components. No voltage stabilizer was used in the writer's unit as it was not found necessary. A variation of voltage caused both oscillators to move in the same direction, in this case higher, with the result that the beat did not shift to any audible note.

This test was made using the fourth harmonic of the local b.c. station which is 3.320 Mc. and after allowing the heaters to "warm up" for ten minutes no frequency drift was noticed over a period of forty-five minutes.

A full point to point description of the construction will not be attempted here, as any person intending to build it will have sufficient knowledge to do so from the circuit.

Although not shown in the circuit it is a good plan to place a milliammeter in the plate circuit of the 802.

It will also be noted that there is no ht. on the screen of the 802. This is quite in order as the screen is used purely as an injector grid.

If the suppressor were used there would be no shield between the injector grid and the plate and this would allow too much of the low frequency to appear in the plate circuit.

The writer has used one of these units for some months now and has found it to be very satisfactory. However there is one point, watch carefully the frequency of the Crystal used, making sure that it will not cause any harmonic of the Hartley to fall in the 3.5 Mc. band in close relation to the beat frequency.

Take the case of a Crystal on 4.68 Mc. When tuned for a beat frequency of 3.51 Mc. the Hartley is on 1,170 Kc. and its third harmonic is also on 3.51 Mc. This is alright if the beat is "dead on" 3.51, but between 3.5 and 3.51 a second signal appears and can cause a deal of trouble.

Crystals having fundamental frequencies between 4.3 Mc. and 4.5 Mc. are free from this trouble.

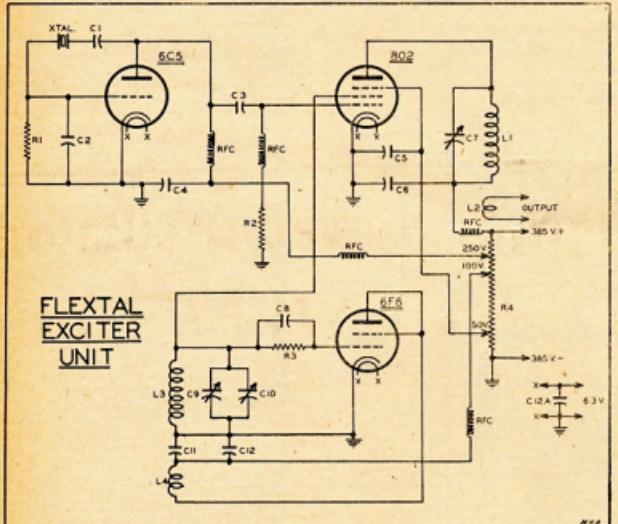
The tuning procedure is as follows:

(i) Remove the 6F6, and using a Crystal in the 3.5 Mc. band tune the plate of the 802 to resonance. This ensures that the Pierce Oscillator is working and also gives an idea of where the "dip" should be when using the conversion Crystal.

(ii) Replace the 6F6 and remove the 6C5 and with the aid of a b.c. receiver set the paddler of the Hartley until the frequency is 3.5 Mc. removed from the conversion Crystal, i.e. with a 4.3 Mc. Crystal set the Hartley on 800 Kc. Do this with the band-spread condenser at minimum capacity, because, as we are using the difference of the two frequencies the unit tunes "backwards," i.e. an increase in capacity results in an increase in the beat frequency.

(iii) Replace the 6C5 and using the conversion Crystal check the band-spread with the aid of a frequency meter, at all times keeping the 802 plate at resonance.

The unit is then ready for work and has plenty of output; in fact, the writer



C1—0.01 uF.
C2, C3—100 pF.
C4, C5, C6—0.001 uF.
C7—50 pF, variable.
C8—500 pF.
C9—385 pF. (broadcast).
C10—100 pF, variable.
C11—0.1 uF.
C12—8 uF.
C12a—0.006 uF.

R1, R2—50,000 ohms.
R3—5,000 ohms.
R4—35,000 ohms.
RFC—2.5 mH.
L1—48 turns 22 gauge close wound, 1" diam.
L2—8 turns 22 gauge over cold end L1.
L3—Broadcast coil third of turns removed.
L4—30 turns 28 gauge, sliding over L3.

*Assist. Engineer Station 3UL; Landsborough Road, Warragul, Victoria.

had difficulty in reducing drive sufficiently when driving an 807 on 3.5 Mc.

If there is any doubt about not using voltage regulation on the Hartley, a VR105/30 may be used.

It is the intention of the writer to make this unit a real "Flexital" by incorporating a switch to bring several spot Crystals in, thus having an exciter unit which will be quite versatile.

Before finishing may I be allowed to write a word of advice:—

There has been, lately, some talk about v.f.o.-hits, i.e. running up and down the band and thereby causing quite an amount of unnecessary QRM. Take a tip, and incorporate a switch that will allow the "Flexital" to be brought on independently of the final. This will allow of "netting" without causing QRM.

Band Switching Converter

(Continued from page 6)

antenna lead, and with a signal tuned in, a point will be found on the Wavemeter dial where the incoming signal dips suddenly. If Converter is operating on its correct frequency this should be on the 166 Mc. band. The lead lengths are then adjusted to give alignment.

Another method of finding the 166 Mc. band is by the oscillator harmonic method. This requires an Alignment Oscillator covering the range 15-30 Mc.,

and the principle of operation is as follows:—The Converter is tuned to a 10 Mc. point, which is one of the Receiver harmonics, and the Alignment Oscillator frequency is varied until a beat is heard with the signal tuned in on the Converter, this frequency is noted. It will be found that in the range 15 to 30 Mc. quite a few points will be found. By referring to the table below, the frequency to which the Converter is tuned will be found above the vertical column of frequencies which agree with the points noted on the Alignment Oscillator. It is important that this check be made only after the signal circuits have been aligned, otherwise images will be loud enough to be confused with the signal.

The table only shows frequencies over a limited range, but can be extended by simply dividing the frequencies in the top line by the harmonic required, such as 5, 6, 7, etc. Also the table is not calculated to a high degree of accuracy as this is not necessary to locate the band.

70	80	90	100	110	120	130	140	150	160	170
23.3	26.7	30	25	27.3	30	26	28	30	26.67	28.4
17.5	20	22.5	20	22	24	21.6	23.38	25	22.9	24.3
14	16	18	16.7	18.4	20	18.6	20	21.4	20	21.22
			15	14.3	15.8	17.15	16.25	17.5	18.7	17.8
						15	14.45	15.5	16.7	16
							15	14.55	15.45	

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In operation the Converter has proved to be an excellent performer, and it has retained its calibration on all bands, whilst the convenience of switching bands has to be experienced to be appreciated.

TECHNICAL EDITOR'S NOTE

It is regretted that owing to the indisposition of one of our draughtsmen, an article on the SCR522 Conversion, scheduled for this issue, was not ready in time for publication.

This article, which will appear in the April issue, should appeal to all Amateurs who are interested in conversion of service equipment.

From correspondence received, it is obvious that articles of this nature are extremely popular, and it is hoped to publish a series covering equipment now available on the Australian market.

Any suggestions, data, or conversion material our readers may be able to supply, will help to keep this section of the main technical presentation complete. It is up to you to keep the ball rolling.

GRID DRIVE

One important question that is sure to come up in the design of a new transmitter is how much power is needed to adequately drive the individual stages. Tube manufacturers have set up driving power figures in typical operating data, but, unless this information is interpreted correctly, the driver stages may be underdesigned. Here is an analysis of grid driving power as listed in tube operating data which is reprinted from R.C.A. "Ham Tips," Vol. VII, No. 3, 1947.

At higher frequencies consideration must be given to r.f. and transit-time loading losses. If the stage in question is to operate above 30 Mc., it is advisable to provide 3 to 10 times the published low-frequency driving power figure in order to insure sufficient drive plus a reasonable margin for safety.

After the design has been crystallized and the transmitter constructed, tests and adjustment should be made to insure that the stages are being properly driven. If, as in many cases, an amplifier tube is to be operated with conditions differing somewhat from those published under a set of suggested typical operating conditions, the performance can be checked as follows:—First, load the amplifier to the desired value of plate current. Then vary the grid current slowly (tank circuit tuning remaining unchanged) and note the change in output.

If the change in output is roughly proportional to the change in grid drive, the stage is underdriven. Then drive should be increased until very little increase in output results from a large increase in drive. Under this condition, the stage is said to be saturated. Of course, the maximum rated value of d.c. grid current should not be exceeded.

The penalties for an underdriven stage are low power output, low efficiency, and, if the stage is plate modulated, severe distortion at high levels of modulation. The latter condition will readily be recognised as downward modulation, and, if a pure sine wave is used for test, a decrease in average plate current will be noted as the modulation level is increased.

CORRECT GRID DRIVE IMPORTANT

It is very desirable to saturate amplifiers, especially those driven by a series of frequency multipliers. This comes about because it is rarely possible to saturate frequency multipliers and stay within tube ratings. Consequently, a small decrease in supply voltage on the multiplier stages may cause a large decrease in grid drive and in output of the final amplifier stage. It is important, therefore, that the amplifier grid be saturated so that full output is maintained regardless of variations in supply voltages.

It is possible to overdrive as well as underdrive tubes. However, overdrive occurs rarely. There is little to be gained by over-driving and something to lose. Although there should be no actual damage to the grid or cathode unless the maximum ratings for d.c. grid current or d.c. grid bias are exceeded,

over-driving can cause excess harmonic radiation and low power gain.

Over-driving a beam tube or pentode may cause the screen grid to be overloaded before the control grid. This condition may be checked by metering the screen current to determine whether the screen input is within ratings. Adjustment of both bias and screen voltage may be necessary to allow the tube to be properly saturated and still remain within screen input ratings.

The correct amount of grid drive is an important detail of power tube application. With other conditions properly maintained, it insures high power gain, high plate efficiency, and long tube life.

The value of driving power shown in tube data bulletins includes only the actual power input to the grid plus the power lost in the bias supply. It does NOT include r.f. losses that occur in the tube, tank circuit, socket and wiring, or losses in the tubes, caused by transit-time loading.

It is not feasible for the tube manufacturers to give total driving power figures because there is no way of anticipating conditions under which the tubes will be used. Grid power requirements will vary considerably even in well-engineered designs, and the extreme ranges are quite large. It is better, therefore, that printed specifications indicate only the sum of grid power and bias losses.

Because the driver tube must supply all the losses between its plate and the grid of the driven tube, these losses must be added to the figure given in the tube data for driving power requirements. On an average, in the frequency range up to 30 Mc., the losses are large enough to indicate the choice of a driver tube which has a rated output of about twice the grid power rating of the driven tube.

Driving-power measurements are usually made at 100 Kc.—where r.f. losses in the tube are negligible—by measuring the peak r.f. grid voltage (E_g) and the average grid current (I_{av}). Then, the relation $W_d = 0.9 E_g I_{av}$, gives the driving power in watts. This is the figure shown in tube bulletins.

TO WHOM IT MAY CONCERN

Two manuscripts have been received signed by "Old Hombre" and "Vieille Homme." Would the person concerned be so good enough to furnish me with his correct name and address (which is not for publication), after which I can possibly make use of the contributions.—Editor.

CALCULATING DISTANCE OF QSO'S.

By F. S. DAHL*, VK7KA (Portable)

Now that v.h.f. and u.h.f. DX is being achieved, it seems interesting to know somewhere close to the mileage achieved in a contact. This can be done simply by trigonometry, and the following method gives reasonable results without recourse to involved data on the oblate spheroid shape of the earth, to the convergence of meridians, and the eccentricities of geodesy.

Firstly know your QTH. This can be had by scaling latitude and longitude of your shack from a large scale local map or district survey chart. Since maps are readily available at scales of at least 1" to the mile, a position can easily be fixed within say 15 seconds of arc, which is about $\frac{1}{8}$ mile. One minute of arc approximating 1 nautical mile—1.1515 statute miles.

Now suppose Ham A in Adelaide works B in Melbourne, the Cosine of the arc on the earth's surface AB in degrees and minutes equals the sum of two terms.

Firstly, Cosine Latitude A \times Cosine Latitude B \times Cosine Difference in longitude, written—

Cos. lat. A \times Cos. lat. B \times Cos. diff. in longitude.

The second term is—

Sine lat. A \times Sine lat. B.

Perform these two multiplications then if both stations are on the same side of the equator, add the answers together. This figure is the natural cosine of the angle subtended at the earth's centre by the arc on the earth's surface joining the two stations.

Convert this angle into minutes and this gives nautical miles the stations are apart, and finally multiply by 1.1515 to arrive at statute miles.

If the stations are on different sides of the equator, then subtraction of the terms is necessary. The lesser from the greater.

The following is a worked example:—

Latitude Adelaide S 34° 55' 33".

Latitude Melbourne S 37° 49' 53.5".

Difference in Longitude 6° 23' 27.5".

The first term Cos. lat. Adelaide \times Cos. lat. Melbourne \times Cos. Difference in Longitude =

Cos. 34° 55' 33" \times Cos. 37° 49' 53.5"

$= 0.819884 \times 0.789819 \times 0.993786$

$= 0.643544$ using natural cosines.

The second term, Sine Adelaide \times Sine Melbourne = Sine 34° 55' 33" \times Sine 37° 49' 53"

$= 0.5722516 \times 0.613340$

$= 0.351147$

Add these two results together—
 $0.643544 + 0.351147 = 0.994691$

Now in your trig tables look up what angle has a natural cosine of 0.994691, and we find 5° 54' 20" which equals 354.333 minutes. Thus the points taken

(Continued on page 9)

*Lands and Survey Dept., Tasmanian Govt. Service, Box 641B, Hobart.

WRITING AN ARTICLE FOR "AMATEUR RADIO"

It is the purpose of this article to give some "dope" to you, on how to impart your knowledge to your fellow Ham via the medium of "Amateur Radio."

In order to have a magazine, it is evident that editorial material be obtained. Naïve as it seems, that statement carries plenty of meaning, and is not facetious as it may appear.

We like to receive articles with a basically good idea and which usually can be sent to the printer without a mark (correction) on them. But if the idea is good, we will re-write it if necessary and make it suitable for publication.

Out of ten articles received, for instance, there may be three, four or five which are acceptable as they are written (with the exception of some grammatical and technical corrections or clarifications). Occasionally the prize of them all pops up, an article which has been well written, technically and grammatically sound, and—all of things—with a subject that will be of great interest to the majority of Hams, as well as being technically hot. Yes, this sort of article is a rarity, but all connected with the magazine find it fascinating, because we never know when such a prize will show up.

The following remarks are representative of our collective sins as would-be writers:

1. We type our manuscripts with no extra spacing between lines and/or with

little or no margins between the writing and the edges of the sheet. Manuscripts should be typewritten, if possible (or legibly written), on paper approximately 8" x 5½", with at least 1½" margins, and double spaces between lines. When the article is written, get the XYL to read it out aloud, you will see at once if it has continuity, and is legible to a person other than yourself.

2. We forget to send one or more pages of the manuscript.

3. We overlook the little matter of writing our name and the title of the article on each sheet of the manuscript, very important if the pages should become detached.

4. We fail to number the sheets consecutively, and sometimes place the sheets out of reading order.

5. We fail to include all constants in the wiring diagram. Draw the schematic clearly, mark all constants, don't worry about making a copper-plate drawing, our draughtsmen will do that for you, they know what is required by the block-makers.

6. We send a print taken on a small camera. A reasonable size print is required for blockmaking. If possible send the negative and advise if you want it returned.

THE SUBJECT

Of greatest importance is the subject, if it is a piece of equipment, expressedly for the man without a.c. power, that is acceptable. Many Hams have to use

battery power in Australia. The conversion of a piece of commonly available ex-service equipment, a new antenna, receiver, or some transmitting gear, v.h.f. apparatus—the subjects are too numerous to mention.

The whole thing is so simple; merely sit down and think of what you did first in constructing your equipment or whatever it is. Make a few notes. Then write all about it. Take up the second step and write all about it. If there's some connecting point between the two, as there usually is, write it in the second step so as to make a logical connection. Proceed likewise until your story is finished. That's all there is to it. Let the Editor worry about "polishing up" the continuity of composition.

Calculating Distance of QSOs

(Continued from Page 8)

in Adelaide and Melbourne are 354.333 nautical miles apart. Multiply this by 1.1515 and we have 408.01 statute miles.

Reworking the above example by recourse to Naple's Analogy I got 408.07 miles and by vigorous application of the spurious distortion of the earth's surface and the convergence of meridians, the true figure of 408.0617 miles is obtained.

It appears to the writer that some standard formulae should be adopted for arriving at the distances likely to be claimed in v.h.f. and u.h.f. work and the above formulae presents itself in that it is easily followed and worked.

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SUCH NICE PEOPLE

Victorian Divisional Council has ruled that the material contained under this heading must in future be signed by the person responsible for the writing.

I, as Editor, feel that at least "Gremlin" is entitled to make a statement, that I should justify my action in publishing the articles written by "Gremlin," and further, that the two people, who in the first place were responsible for "Gremlin's" appearance, should be permitted to defend their action.

I am aware of the identity of "Gremlin" and suffice to say that his personal integrity is of the highest, his technical ability cannot be challenged, and his writings were inspired by a sincere attempt to clean up Amateur Bands.

Thomas D. Hogan, Editor.

"GREMLIN'S" STATEMENT

Editor, "A.R."

I understand you have been instructed by Council, Victorian Division, to publish my discourses under my call sign. I cannot agree to this for I firmly believe the article would no longer have the same value—however small—in this form.

Technically, I suppose you cannot accept this for publication minus call sign, but I'm sure Council will grant me the opportunity of saying "Au-revoir."

I am told several people have been greatly offended by my writings. To them I most humbly apologize, assuring

you that at all times I criticised various signs, having in mind nothing more than an earnest endeavour to assist in maintaining the high Amateur standard in VK. At no time were my remarks intended to be construed as personal reflections.

Council, in their wisdom, issued this directive with, I believe, the thought "would 'Gremlin' have the courage to come out into the open?" To my mind, it is not a question of my courage, but one of satisfying the desire of the majority of members. With the ball prettily knocked back into my court, the directive by Council has diplomatically gained the objective—exit yours truly.

Remembering my fore-runner "QRZ" I now silently steal back into the shadows, thanking Hams, one and all, for what to me was a happy association. Especially I thank those many friends who have written words of thanks and encouragement even though many have "had a mention." I have enjoyed it, for I feel I got to know more chaps than when I was a DX chaser.

Cheers and good hunting,

"GREMLIN"

Editor "A.R."

We were surprised, in fact astonished, to hear that Council had issued a directive which prohibits further publication of "Such Nice People" unless the real name or call sign of the author is published with it.

We have since had from the President the basic reason for Council's action, and we believe that "Gremlin" has been victimised. We further believe that a

fuller inquiry into the matter would reverse the decision made by Council.

As you know we originally vouchered for the character, integrity and the technical ability of "Gremlin."

"Gremlin" will not continue his notes unless under a "non-de-plume." He is not contemptuous, deceitful, insincere, vindictive, or facetious.

His notes if published conditionally, as required by Council, would lose their "news value" for we believe an overwhelming majority of readers first turn to "Gremlin's" column when "A.R." comes to hand. No doubt, as Editor, you are aware of this fact more than we are.

May we ask that you use every endeavour to have Council re-consider the subject, for we believe that the majority of readers desire the continuance of these articles in the magazine.

Assuring you of our support, together with that of many amateurs with whom we have spoken on the subject of "Such Nice People,"

Yours etc.,

HARRY KINNEAR, VK3KN

ARTHUR EVANS, VK3VQ

ANNOUNCEMENT

Interstate visitors are invited by the Victorian Division to avail themselves of the services of the Administrative Secretary, Mrs. Cross, who will furnish suitable introductions and information if requested.

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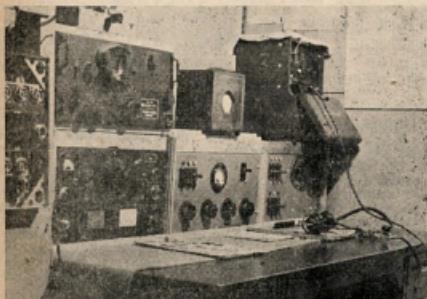
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STATION DESCRIPTION—

VK4WI

The Transmitters and Receivers pictured here are operated by the Queensland Division of the Wireless Institute of Australia under the call sign of VK4WI. The persons responsible for the planning and construction of the station are to be congratulated on the completeness of the gear.

The use of three simultaneous channels for transmission of official broadcasts gives the Queensland Division the widest possible cover for the dissemination of its Divisional news.



The transmissions of the official Queensland W.I.A. station are probably well known to most VK4s and possibly to most VKs. Established in its present form shortly after the present Council started operations, it took over after the original set-up provided by VK4HA, and at present under the control of VK4FN it operates on the following frequencies simultaneously: 7100 Kc., 14342 Kc., and 52004 Kc. The station commences operation at 0900 hours each Sunday morning when members are invited to join in the usual round table discussion on current topics and items of news. The news for the preceding week is broadcast at 0910 hours, after which the hook-up takes place, and in all nearly 30 members have at one time or another taken part in the proceedings including several

VK2s. Frequency measurements are provided on nights specified in the Sunday broadcast, and this service is widely used according to operator VK4FN.

As you've probably been wondering what's behind the panels, a description of the station follows. The left hand rack starting from the bottom contains: bottom three panels are power supplies; panel with single knob, the modulators; meter panel; 7 Mc. exciter comprising 6F6 oscillator and 802 buffer link coupled to an 813 with 100 watt input.

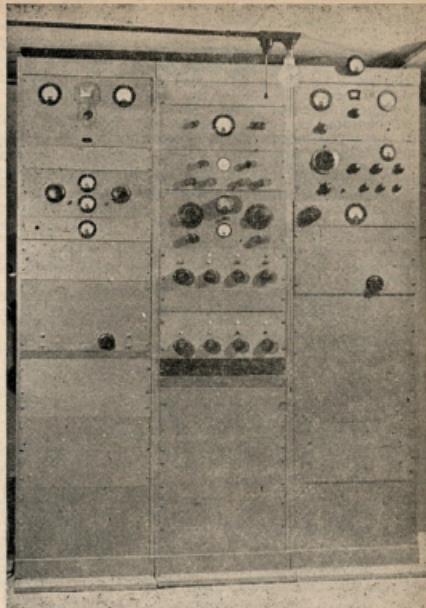
The centre rack, again from the bottom is d.c. power supply for relays; two racks containing power supplies; a Jack Field; Power Distribution Panel for 14 Mc. transmitter; Relay Panel; Power Distribution for 7 Mc.; an 27 Mc. fm.

supply or from a voltage divider network on the main h.t.).

The screen is then "automatically" modulated because of normal variation in screen current under plate modulation.

It then becomes a simple matter to run the tube(s) at the correct manufacturers' ratings. With excessive (or absence of) drive your screen current/voltage doesn't go off on disastrous excursions.

The writer uses a Japanese 8 henry 30 mil. choke in the screens of push-pull 807s (with the usual 100 ohm re-



exciter; c.r.o. unit; Modulation Meter.

The right hand rack contains the 14 Mc. equipment, in the usual order; bottom 4 panels, power supplies; Modulator Panel; 14 Mc. exciter made up of 6C5, 6N7, 807 driving an 808 p.a. with 100 watts input.

The antennae used are Verticals, mounted on the one pole. The 14 Mc. transmitter, not shown in the photo, is a DR106, a trans-receiver using a pair of 807s in the final; receiver is a superhet. It is hoped that the next time you listen to VK4FN doing his stuff over this fine set-up you at least will know something of what's going on. The receiving position is self explanatory except to add perhaps that the meter under the Microphone is a power level indicator.

sisters and 0.001 uF. condenser). When originally tried with a single 807, the same amount of audio was required for a given r.f. input for 100% modulation (on the c.r.o.) as when using the screen dropping resistor. However, a slight increase in antenna current was noticed (antenna was a full-wave voltage-fed zepp) using the choke method.

Your attention is called to two necessary precautions. Firstly, arrange the switching so that the screen voltage is never on without or before the plate voltage; and secondly, on c.w. it is necessary to short out the choke.

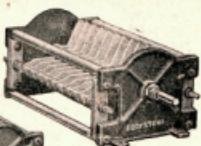
PLATE MODULATING THE BEAM TETRODE

BY E. A. CHARLES, VK5YQ

The good book recommends either feeding the screen via a dropping resistor from the modulated plate supply OR the use of a separate winding on the modulation transformer. Your attention is directed to another method that appeared in an advertisement by Eimac (valve manufacturers) in QST, May 1947. Here the screen is fed via an audio choke (10 henrys or more) from a fixed supply (say, your exciter voltage

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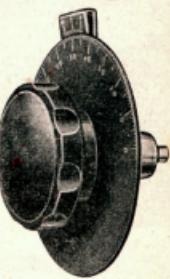
brown and fixes to the chassis by means of two screws 4/7

Cat. No. 1007 4/7

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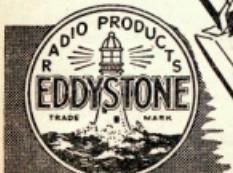
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FIFTY AND UP

Compiled by VK3QO, to whom all contributions can be sent

DX.—Nothing of very much interest, only general contacts between VK and ZL on several occasions!!! The band was also open over the south, central and eastern half of VK at about the same time, only the VK being apparently left out in the cold.

According to the log, the ZLs were first heard in VK2 on 21st December, while the first VK3-ZL contacts were made at about 7 a.m. on 21st December. The first ZL-VK3, VK7 and VK5 contacts were made later on the same day, and the ZLs heard (in VK3) on 5/1/48. Signals were mostly very good with some QSB. The Dunedin S.L.R. report the most intensive Sporadic E they have ever encountered at the time the DX was on. Although the VK could hear the ZLs very well, they could not raise them and we are rather sorry at having missed out.

The ZLs are very up to date; most all of them using the "narrow band" technique, i.e. they tune their Receiver from 50 to 55 Mc. only. Many would claim from VK stations who, being more or less amateur, do not care to raise them. The band opened for interstate contacts on numerous occasions during December, the best occasions being on the 13th and 21st after which it "tailed off" gradually.

During the afternoon of 24/1/48, VK3ZAW worked ZL3AW who came in briefly at approximately 1500 hours. This was done on a ground plane antenna, as a point of interest, whereas VK3 2NO and 2WJ had no luck with their verticals. VK3ZAW made quite a number of the boys called rather fruitlessly. On 31/1/48 between 1500 and 1100 hours, ZL1CB was worked by VK3 and ZLY. ZLY was working several of the ZLs during the day, although he did not get the two down under, Sydney were among the last to be taken down.

VK3s have been heard on 55 Mc. by at least two VK4s. On Saturday, 27th December, VK4HR heard a VK6 but could not get the call, the signal being very weak, and on Sunday, 11th January, VK4XMM worked a VK6 packet station, St. 128A E.S.T., but as far as I can gather, 4X0G was overruled by the shock that he missed the call. The bird was in Sabine however, and was rag-chewing with another VK6.

During January and February of 1948, 56 Mc. has opened several times between the eastern states but was not heard in VK3. Reports of a 56 Mc. sign-on the band, fellers, like 4BT, Reports of hearing 56 Mc. foreign signals should include time, frequency and remarks; our Editor is a sceptic (if a 7 Mc. tone).

Some foreign DX has been logged by VK3TA in Hornbeam since 1/1/48 at 1500 hours he heard KHN6Q on 57. On the following week-end (11/1/48) between 1100 and 1145 hours a series of W stations broke through. Those heard were WVOOG, WZBN, W6WY, W1PAK and W1BQD. They were worked immediately and on the sign-over the calls were given quickly and only once. Their average strength was 87. On the same day at 1550 hours JBAAK was heard calling an amateur in Pearl Harbour. All these DX stations were heard before VK3 got into the band and the centre of the band. Unfortunately VK3TA was unable to call them owing to the transmitter being rebuilt. His beam was up and was using approximately 16 feet of wire (at about 20 degree angle) for reception. This presented a rather difficult problem, so he had to go to 8 points than a 6 ft. napp with feeders tied together. He uses a converter (GAKS r.f. ECHRS mixer) ahead of an AR7 for reception.

On 23/1/48 VK3ZAW worked VK2AHM in Wentworth, near the South Australian border. This was a 5WPM first contact with him and he was using about 5 watts output to a fence post. VK3ZAW, 2NO and 2QR were also worked. VK3GU in Canberra has been getting into Sydney very consistently late, and has been working 2KJ, 2WJ and 2LUT on several occasions. In fact of course, VK3 is now a regular on 50 Mc.

The last v.h.f. section meeting of the VK3 Division was held on 18/2/48 and was extremely well attended. In the absence of 2NP, v.h.f. officer, down in Melbourne, the chair was taken by Divisional President, 2V2, and the meeting was very excellent indeed. Chas. H. (SALO) and Alex (of C.S.I.R. Radio Physics Lab.) who are engaged in the moon radar experiments. Everyone present was quite surprised at the amount of calculation (both astronomical and otherwise) which was necessary before this group could work out what was necessary. Newcastle and the Coalfields were represented by 2ZL, 2ADX, 200 and 1RU who once again made the long trip down and back by road. Other visitors

to the meeting were 4MM and G3BMV, the latter from one of the ships then in Sydney.

"Short Wave" in VK3 has been noticeable in February. Between 3ER at Macraes and 3VI at Red Hill, there were many contacts, right across the band. Until a few weeks ago 3ER had never even heard 3VL but signs have been building up and contact should be possible soon. 3U1 at Tatura (95 miles over range) has worked 3BQ and 3ABA in Melbourne and 3BQ has worked 3CL and 3CI at Foster (68 miles) have worked cross-band and 3CI had heard 3HZ. 3BW has heard 3HZ (72 miles) steadily lately. 3BQ still keeps lonely DX vigil at 1200 and 1300 hours each day on c.w. (3R note!)

The male VK3 field day on the 11/1/48 was not much for the country stations, those that were out on the air were 3ABA, 3BQ and 3CL. 3BQ had a range of 76 miles N.W. of Melbourn and 2000 ft. high. Quite an interesting day, good weather and enough contacts to keep them busy from 1300 to 1830 hours. High noise level was noticed. 3IVL was working 3CL and 3CI and 3BQ and 3ABA stations. 3ABG was working from his usual location at Avenel. 3U1 at Tatura had a number of fairly good contacts with Melbourne. 3PF, working fixed portable at Korup (about 95 miles north of Melbourne) had heard 3CL and 3CI, and 3BQ, although fading was present. 3RJ, fixed portable at Macraes was as usual well "stuck into them". Do microphones were out with contact use?

These field days are a great help to the country clubs, very useful and the continuation of no Mc. field days is desirable if only for that reason.

During Xmas holidays 3VL-MUS (Rev. and his XYL Gwen) took their portable to Ballarat and district and worked everything on the band. Tx was 6WZ e.c.o. Intensity 6W.p.d.; Rx was 990E, 453T, 606T and various others. Later they went to Yarrawa where they worked 3HZ. 3ALS drove them up a hill outside Yarrawa where a CO noted 5G1, which gave 3ALS a big surprise! 3HZ, 3AKM, 3ST and 3TJ were also worked. On the way home they worked 3AKM and 3HZ mobile.

PERSONAL PARS.

2JU and 2NF have worked 200 in Canberra consistently, a matter of 180 miles, and 2JU has been getting reasonably consistent results with the calls in the lower diathermy bands, notably in Sydney and the call VK3AGW, G3PJO and G3UBF/VERLAG (mobile marine) also visited Sydney. The mobile marine tests will be repeated when 200 miles again in a few weeks. 2TL, 2PF and 2FZ have been working the v.h.f. section meeting and were warmly welcomed.

There is a movement in VK3 to populate the higher end of the band. It was noticed when the DX came so thick and fast that ORM was quite a problem. The VK3 stations were heard only a few voices "crying in the wilderness" from 51-54 Mc. We have no proof whatever that DX only comes to the lower end of the band, in fact 2NO has repeatedly heard some ZLs working around 53 Mc. and VK3 has called VK3ZAW and said that "this station will look over the band, starting at the 10100 frequency end." Stations should also sign in c.w., as well as phone stations sometimes, and always contact.

In VK3 the amateur chaps are slowly building up a network, the latest addition being DJL at Leonards who has worked 3HK and 3VL. 2RX at Colac has also been heard. The boys at Ballarat are not now heard as "local contacts".

3RJ, 3EP, 3HK and 3DM have been making contacts on 50 Mc., 3HK and 3RD work v.h.f.s. and re-actance tube modulators and modified mixers and local oscillator tube receivers. 3RJ uses an 8.4 Mc. xtal and "narrow band" modulation and a standard AM receiver in the sharpest position. However, so far as I am informed, although it appears that a certain level of signal is needed to make the limiter work properly.

3VL is keen. Locking a car, he piled his portable gear in a "shambles" and printed small mill or so on the side of the car. He has a 1000 ft. dipole and just QSO for a change! 3RJ is busy on separate rigs for 50, 28 and 14 Mc. Intends next 8 meters of no "sound and round" (due to 3RR's new rig). Next up is to be 1EL7, RL18 and CW on 14 Mc.

Ray "Brown" (VK3) has written a note dated 21st February '48, concerning 50 Mc. "quiet windy verbosity" calls for answer. There is fair low "tripe" on 50 Mc. than on the lower frequency bands as the boys seem to be getting away with some w.h.f. problems. The fact that Ray lists 50 Mc. as "the best" and "the absence of c.w." is most probably due to his RX which (by rumor) is a "rushbox"!!! 3BQ, 3CF, 3PG,

3HT, 3HK, 3YS, 3ABA, 3BD for example, all use c.w. and H. Hayman tells us that he will have plenty of contacts soon before his blood.

In VK4 ex-4LP, ex-3VQ, his band taking his beam head converter to different checks. 4ZU has a 4 element wide spaced beam at last! 4KB has a reflector which prefers to be a director. The Brisbane boys are seeking the co-operation of the country boys in extended ground wave work. It is felt that the use of mobiles will help considerably; also that the use of c.w.

The only outstanding performance in VK4 was late last year the reception of 4ZU by 4AB at Palm Beach at 89°. The distance is only 50 miles, but it is the first time that such a distance has been covered by the Brisbane area. Details—4ZU used a 4 element horizontal array, 4AB a Kingsley Converter and a combination of a 7 Mc. zapp and a 50 Mc. vertical. A two-way test the next week failed due to the

(Continued on page 23)

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FEDERAL, QSL and



DIVISIONAL NOTES

Federal President.—W. R. Granow, VK3WG; Federal Secretary.—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Wal Nye (VK2XU), Box 1734, G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor.—R. Deal, 209 Oberon Street, Coogee.

Zone Correspondents.—**Newcastle:** E. J. Baker, VK2FP; **13 Skelton St., St. Helens:** Newcastle **Callideon and Lakes:** H. H. Hailey, 13 Skelton St., Callideon; **Geelong: Western:** G. J. Russell, VK3QO, Canbara Street, Nungan; **South Coast and Tablelands:** L. H. Vale, VK2ANN, Box 73, Bega; **Southern:** E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albany.

VICTORIA

Secretary.—A. B. D. Evans, VK3VQ, Box 2611W, G.P.O., Melbourne, Telephone: FJ 6997.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—**North Western:** B. R. Mann, VK3BN; **Queensland: Western:** C. C. Waring, VK3CW; **South Western:** B. Scrimge, VK3BI; **North Western:** B. Scrimge, VK3BI; 172 Marion Street North, Ballarat; **North Eastern:** D. Tacey, VK3DW, 18 Harold St., Shepparton.

FEDERAL

HAMS WHO LOST THEIR LIVES DUE TO SERVICE

VK2AJB—G.	C. Curle	Unknown	R.A.A.F.
VK2BQF—F.	Easton	A.M.F.	R.A.A.F.
VK2JV—C. D. Roberts		R.A.A.F.	R.A.A.F.
VK2VJ—V. Jarvis		R.A.A.F.	R.A.A.F.
VK2YD—P. J. Morris		R.A.M.F.	R.A.M.F.
VK3DQ—J. D. Morris		R.A.M.F.	R.A.M.F.
VK3HN—J. McEndish		R.A.N.	R.A.N.
VK3IE—E. E. Mann		M.N.	M.N.
VK3NG—N. E. Gunter		R.A.A.F.	R.A.A.F.
VK3OW—G. L. Templett		R.A.A.F.	R.A.A.F.
VK3PL—J. L. Colthrip		R.A.A.F.	R.A.A.F.
VK3PV—P. Veall		R.A.M.F.	R.A.M.F.
VK3SS—W. Jones		R.A.M.F.	R.A.M.F.
VK3VW—J. E. Bourne		R.A.A.F.	R.A.A.F.
VK3VE—J. E. Sutcliffe		R.A.A.F.	R.A.A.F.
VK4DR—D. Laws		A.M.F.	R.A.A.F.
VK4PB—Allan		R.A.A.F.	R.A.A.F.
VK5A—C. A. Frey		R.A.A.F.	R.A.A.F.
VK5DP—R. J. Smith		R.A.N.	R.A.N.
VK5F—J. Mann		R.A.N.	R.A.N.
VK6GR—A. H. G. Rippen		R.A.N.	R.A.N.
VK6JG—J. E. Goddard		R.A.A.F.	R.A.A.F.
VK5SE—R. J. Smith		R.A.P.	R.A.P.
VK6LP—L. P. Hyland		R.A.P.	R.A.P.

The above names and details have been received by Federal Executive. Anyone knowing of any name not included on the above list or errors therein should communicate with F.E. at the earliest.

ANTARCTIC EXPEDITION

Federal Executive has agreed to announce that arrangements were made (as only finalised at the last minute) for the licensing of an Amateur on the H.M.A.S. "Wycliffe" the vessel being used by the Australian National Antarctic Expedition. The call is VK1AA. The operator is Mr. Tom McCarthy. The W.L.A. arranged the loan of a Type 3 Mark II and crystals of 7019, 7027, and 7186 Kc. The station will operate on 7 and 14 Mc.

The Federal Executive has agreed to make arrangements to have QSL cards printed and these will be sent out on the vessel's return to the mainland. Please send your QSL cards to VK3UM. Cards will be sent out only on receipt of incoming QSL.

All Amateurs are requested to keep their operating practices and keep V.T.O.'s off the frequencies above when the station is in operation. The first contact home go to VK5GR, Charlie Clark.

CERTIFICATES

The various certificates mentioned in these notes last month are now complete and outstanding U.S. Contest Certificates for the 1946 and 1947 Contests will be the first to be issued. There are some 300 to be made out and signed to please have with you a while longer. Due to postage difficulties certificates for each Division will be sent to the Divisional Council for issue to the winners.

Amateur Radio; March, 1948.

QUEENSLAND

Secretary.—R. Therley, VK4RT, Box 638J, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor.—H. Parsons, VK4ZU, "Moquet," Eldon Rd., Windsor.

SOUTH AUSTRALIA

Secretary.—E. Barber, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK5KG, Howard St., Perth.

Meeting Night.—Second Monday in each month at the Builders' Exchange, St. George's Terrace, Perth.

Divisional Sub-Editor.—R. W. S. Hugo, VK5KW, 8 View St., Subiaco.

TASMANIA

Secretary.—J. Brown, VK7BJ, 12 Thirza St., New Town, Telephone: W 1328.

Meeting Night.—First Friday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—W. W. Watson, VK7YY, 12 Cross St., Saltwater Point, Hobart.

Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7190 Kc. and 2000 hours EST 50.4 Mc. No frequency checks are available from VK2WI.

VK3WI.—Sundays, 1130 hours EST 7196 Kc. Short frequencies every fourth Tuesday, between 7000 and 7200 Kc. every 10 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours EST simultaneously on 7109 Kc., 14942 Kc. and 52.004 Mc. Frequency checks are given on Monday nights weekly and the hours are announced during the Sunday broadcasts.

VK5WI.—Sundays, 1000 hours SAST on 7168 Kc. Frequency checks are given by VK5WI on Friday evenings on the 7 and 14 Mc. bands.

From VK6WI.—Sundays, 0930 hours WEST on 7168 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1030 hours EST on 7174 Kc. No frequency checks are available.

GERMAN CALLS

It has been learned that the American Occupation Forces in Germany are now being issued with new prefixes. Those so far known are:—

—Bremen;

D2—Munich;

D46—Hamburg.

EXTRACTS FROM I.A.R.U. CALENDAR TO THE FEDERAL EXECUTIVE

W.I.A. Convention Proposed Submitted to Member Societies

At its 1947 Annual General Convention, the W.I.A. directed its Federal Executive to approach I.A.R.U. and seek international member-society comment on the desirability of sub-dividing the high frequency amateur bands into phone and c.w. sections. An appeal was made by the Society's Secretary mentioning "the fact that any such subdivision should be on a voluntary basis rather than being achieved by government regulations in each country."

A world-wide agreement, or series of regional agreements, on the division of our bands as between phone and c.w. would be a logical first step forward in amateur Radio. There are many practical problems which must first be solved, however, and we would be remiss if we did not mention them. Perhaps the principal difficulty is the differences in attitude of the various societies which comprise the two modes of emission. In some countries, as those in Latin America, the interest is about 50 percent. phone. There, there are technical aspects of the problem—propagation conditions, and, to some extent, power permitted amateurs in each country.

Another difficulty is the fact that under international and continental treaty allocations, the available widths of amateur bands differ in various countries; this is especially true under Atlantic City as concerns the 7 Mc. band. Finally, the successful working of any proposed subdivision will depend upon whether it can be agreed that **UNANIMOUS CONSENT** to and **OBSERVATION** of the agreement can be had. This small group of amateurs failing to observe an otherwise-agreed scheme will deride the entire plan.

In a practical approach to this problem, we must revise our thinking that it is simply a matter of mapping up a chart and dividing the bands into (1) phone and (2) c.w. Actually, as a practical solution and arising from the great number of U.S. amateurs, there must be three classifications:—

1—U.S. phone;

2—Non-U.S. phone;

3—C.W.

Because the frequencies assigned to phone in the United States are well occupied with signals of

considerable strength and the frequencies are therefore "monopolized," it has been the custom of non-U.S. phone stations to operate outside the U.S. phone bands. This is the reason that the U.S. phone bands are not used in the United States assignment, as a matter of habit as well as indicating a desire to remain as close as possible to U.S. phone bands so that two-way contacts may be facilitated. The existence of these non-U.S. phone has a considerable effect on the usefulness of the remaining "e.w." band, since the channels they occupy are not useful at all for c.w. work. In any band division, then, we chart c.w. and phone bands as "dark spaces" which is an intermediate area of indeterminate width which will be occupied by non-U.S. phone stations.

In fact, A.R.R.L. points out that in its own internal band-planning on frequencies of international range it is obliged to take into account the effects of non-U.S. phone stations operating in what (by U.S. regulations) is technically solely a c.w. band.

All these factors are well appreciated by planning groups of member-societies which have studied the international effects of one bands as between phone and c.w. V.E.R.O.N., for example, gave study to this general problem some months ago (as published in the December 1947 issue of G.M.T.) and formulated a proposal to I.A.R.U. The Headquarters asked V.E.R.O.N. that its suggestions not then be considered a formal proposal for the Calendar, because of the imminent nature of the Atlantic City Conference.

R.G.S.B. has also been considering this problem forward in international hand-planning. It Council has established a Codes of Practice Committee having, among other duties, the task of studying amateur telecommunication band divisions as between phone and c.w. and making recommendations to the band director. This is more than a one-society problem. R.G.S.B. has written each of the European societies to ask whether there is sufficient interest to form a regional study group. If the response is encouraging, R.G.S.B. expects to convene a meeting of representatives of European I.A.R.U. societies to discuss hand-planning. Any specific recommendations resulting from such a meeting will be placed before I.A.R.U.

Headquarters will be pleased to have the further comments of member-societies on the W.I.A. suggestion.

CONTESTS

At the same meeting, W.I.A. discussed the matter of world-wide contests sponsored by individual member-societies. It was noted there had been some difficulties resulting from failure to allow amateur societies of the world sufficiently far in advance of the competition to submit amateur entries to become acquainted with the competitions. It is W.I.A.'s suggestion that member-societies, when planning operating contests of international scope, arrange to release announcements and rules-data well in advance so that they may be picked up

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and published by the official organs of other societies. In this connection, "I.A.R.U. News" will be glad to receive and publish any such contest announcement material.

MEMBERSHIP CHANGES

The Headquarters feels it necessary to delete from the membership list the name of the Experimental Radio Society of Egypt. No word has been received from the society to say that the Correspondence to the pre-war address has been returned. Allied servicemen in Egypt, requested by the Headquarters to trace the society's whereabouts, have not been successful in their efforts to locate the organization, therefore, to drop E.R.S.E. from the membership roster.

We are delighted to announce the re-establishment of our Netherlands-Indies member, N.I.V.L.R.A. After the reorganization, the new members are: Mr. A. Willems, PR1AC; Mr. Bieb, PR1B; Mr. L. A. Mondis, PR1EM; P. W. G. Pool, PR1FM; and J. W. A. Nicola, PR1MF. An office has been established with mail address: Post Box 194, Batavia (Java). The society's objective remains the same, that is, to promote amateur radio propagation, which prohibits the operation of amateur stations in the Netherlands Indies.

As a result of a ballot taken by Headquarters three members were admitted, namely: The Chinese Amateur Radio League (C.A.R.L.) as the member society for China; The Radio Club de Chile (R.C. Chile) as the member society for Chile; and The Radio Club Paraguayo (R.C.P.F.) as the member society for Paraguay.

Speaking on behalf of the other members of the Union, a number of whom expressed sentiments of congratulations, the Headquarters extends to C.R.P.F., R.C. Chile and R.C.P.F. a cordial welcome and hearty good wishes.

The I.A.R.U. section in South Africa has changed its name, and is now known as the South African Radio Club. The League feels that the word "Radio" in its name is most proper to reflect the full scope of the society's aims and interests.

The S.A.R.U. writes as follows:—"Our Council is perturbed at the number of amateurs in different parts of the world who do not respect and deliberately disregard the rules of amateur operation, and, in particular, who operate outside the amateur bands. By this type of operation they receive an unfair advantage over the law-abiding amateurs. It is felt that such amateurs should be disqualified from obtaining such honours as the W.A.C. Certificates, DX Century Club and so forth."

"The South African Radio League therefore proposes that any amateur who is deemed to be guilty of out-of-band and any other illegal practice should be disqualified from receiving W.A.C. and other I.A.R.U. awards for a period of twelve months from the date of the offence, and that all contests prior to the date of the offence, and that all contests prior to the date of the said disqualification should be considered as void."

S.A.R.U. has agreed, in correspondence with the Headquarters, that this should be subject for society consideration, but must, at least in part, constitute an official proposal. The Headquarters would be glad to hear from additional member societies in this respect.

NEW MEMBER PROPOSED

The Islenzki Radio Amatuer is the national amateur society for the Republic of Iceland. It has a total membership of 214, including all licensed amateurs, who number only 9. The official address is P.O. Box 1080, Reykjavik. Membership dues are 24 kronur per year, equivalent to 2.75 dollars in U.S. currency. Present officers of the society are: E. Palsson, President; S. Bjarnason, Vice-President; L. Matthiasson, Hon. Secretary; G. Hogn, Hon. Treasurer.

In addition, there are three districts. The society maintains liaison with government authorities, and has obtained the issuance of amateur licenses. At present, operation is permitted on amateur bands above 14 Mc. in width to those of the Scandinavian countries. The society publishes a magazine, "Utvartarsafindi," and maintains a QSL bureau system for its members.

The Danish section of I.A.R.U. in past years has proposed representation on behalf of Iceland but E.D.B. has indicated that the Headquarters will now fully support the membership application from I.R.A.

Federal Executive of the W.I.A. have recorded an affirmative vote in this regard.

CHANGES TO CALL SIGNS, ETC.

Alterations—

VK2ABZ—W. F. Baslin, 6 Lepington Ave., Eastwood, N.S.W.
2AC1C—Mr. G. C. Commissie, Ice Works, Castlemaine Street, Castlemaine, Vic.
2AGA—T. E. Ham, 86 Hampton Court Road, Carlton
2AJN—J. R. Jarman, 38 City Road, Chippendale
2BW—Mr. G. Mote, P.O. Box 72, Wagga Wagga,
2DR—D. W. Reed, 69 Pacific Highway, Waitara.

2IU—M. J. McDonald, 40 Carrabella St., Kirribilli.
2KN—C. E. Peddell, 107 Kemp St., West Kempsey.

2LA—L. K. Adams, 19 Norman St., Wollongong.
2LB—B. R. Duffy, 113 Darling Point Rd., Darling Point, N.S.W.

2NH—N. L. Archer, 16 Coronation Ave., Moonee Ponds.
2RZ—R. B. Duffy, "Bannerman Court," Bannerman St., Cremorne.

2VW—Mr. Wilson, Wilson St. and Maxine Pde., Maroubra, N.S.W.

VK5AKA—K. H. Hughes, 99 Kentridge St., Castlecrag, N.S.W.

2ANZ—H. M. Chapman, Gibson St., Trafalgar, Tasmania (In Re VK7KA)—O. S. Dahl, c/o S.E.C., Kiewa.

3FW—W. A. Felton, Eurolo St., North Balwyn.
3FY—W. G. Clark, Wallace Ave., Hughesdale.

3G—R. J. Carbone, Camberwell, via Maribyrnong.

3H—T. J. Cooke, 291 Wild St., Elsternwick.

3IX—C. J. Reed, 750 Barkly St., West Footscray.

3LW—R. W. Cranach, 107 Green St., Richmond.

3ME—M. R. Campbell, Clyde.

3OD—Mr. J. D. Williams, "Wingit," Lismore.

3UW (in lieu of VK5NP)—G. S. Benrose, 22 Mary St., Coburg.

3WD—B. D. Mather, 59 Carroll Cres., Gardiner, Tasmania (In Re VK7KA)—O. R. Anderson, 38 Howes Rd., Sandringham.

VK7VK—R. A. J. Taylor, c/o Station 4VL, Alfred St., Charlottesville, Qld.

VK3HD—D. R. Briggs, Jervis St., South Plympton.

5OC—R. D. G. St. John, St. Leabrook.

5MJ—J. H. Micklem, Thirrell Ave., Sunnyside.

5TL—T. Lindler, Jetty Rd., Langs Bay.

5WK—E. Prince, Camrose Ave., Plympton.

VK3KA—A. V. Tressider, 23 French Ave., Merredin.

6EL—W. G. Smith, 1000 Victoria St., Perth.

6RS—E. F. Rohan, 23 York Rd., Northam.

6RG—E. R. Harvey, Sackville Tce., Scarborough.

VK7LW—L. W. Edwards, Strickland Ave., Hobart.

Cancelling—

VK1AA—E. McCarthy, H.M.J.S. "Wyatt Earp," National Antarctic Expedition.

VK2DK—A. C. B. Macarthur, Mulgrave Stn., Narrabeen.

2RK—A. F. Cooker, 209 River St., Ballina.

2SP—R. J. Robinson, 100 North Rd., Epping.

2MP—C. M. King, 11 Albert St., Corowa.

2NV—D. G. Gilder, 17 Onslow Ave., Elizabeth Bay.

2OL—L. Squire, Karuah St., Thornton (Portable).

2SB—R. W. Chaplin, 89 Ray Rd., Epping.

2SC—S. M. Waters, 8 Short St., Gladesville.

VK3ACO—D. A. Greenham, portable of VK3CO.

3CW—K. J. Millbourne, 5a Melville St., Hawthorn.

3IY—A. P. Thornton, 28a Maud St., North Balwyn.

3JM—M. D. Lodge, 5 Birdwood St., North Essendon.

3QD—G. E. Wardle, 158 High St., Abbotsford.

3OK—W. H. Watson, 127 Dundas St., South Preston.

3PV—D. B. Shaw, 682 Glenhuntly Rd., Glenhuntly.

3QV—J. M. Bridge, 14a Crisp St., Hampton.

3UB—H. Byrne, 21 Wolseley Gte., Brighton Beach, Vic.

3VB—Mrs. C. M. Adams, 7 Wellman St., Box Hill.

VK4MTP—Rev. M. C. Fay, 186 Chatsworth Rd., Coopers Plains.

4RU—W. W. Newman, Collingville.

4SF—S. J. Ford, 75 Station St., Beaufort.

VK5BLS—A. D. Durdidge, Keystone, S.A.

5CZ—H. J. Scott, 2 Park Rd., Belgrave, Vic.

5LA—R. N. Lane, 3 Farah Place, Redfern, West Sydney.

VK4XF—F. R. Whifford, Kojonup Rd., Katanning.

FEDERAL QSL BUREAU

RAY JONES, VK3RI, MANAGER

DEM6753, ex-D3PBA, Waldemar Kohler, 24b Hussen-Nordsee, Kampfledung-Land 17, Schleswig-Holstein, Brit-Zone, Germany, in requesting confirmation of report, states: "QSLs are the only connection of great importance to our friends abroad. I think we have to wait long time for restoration of our licences and would much desire to exchange magazines, stamps and friendly correspondence with your station."

Advice from Belgium notifies the death, on 1st November, 1947, of Maurice Caron, 20 rue Thiers, Boulogne-sur-Mer, France. Maurice was a short-wave radio enthusiast for many years' experience and well known throughout the amateur world.

Barry Clarke (VK3ADH), of Broken Hill, has returned to the VK5 area as from January. He is now located at "Warrandyte," Karung Ave, Mirreem, Victoria, Australia, S.A., where he will operate under the call sign of VK5BS. VK5 and VK2 QSL Managers please note.

The C.A.V.—national society of the Czech amateurs, write to say that the pirate station is very active in all the amateur bands, using the call sign OK3AA. It is believed that the pirate station is located in Central Germany.

The QTH of the re-established Amateur Society in Hong Kong is H.A.R.T.S., P.O. Box 541, Hong Kong.

16ZJ, G. Chaffey, advises that the following stations are operating in Britain:—

10USA, U.S. Army Radio Station, AP0848, New York.

W6VK16, U.S. Army Radio Station, AP0842, New York.

16AB, QSL via A.R.L. (He is ex-IIAHC/16 and ex-17AA.)

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MDSAB (in operation shortly) Eritrea Signal Squadron, M.E.F.G.S., HQZ (QSL via R.S.G.B.) ET1JZ (now QRT) was actually in Eritrea and NOT in Ethiopia. He did not and will not QSL.

HEILEO, located at various towns in Liechtenstein, is quite authentic and is the portable station of HEILEO, Rudolf Graeber, Farberstr. 37, Zurich 8, Switzerland. He was touring Liechtenstein during the latter months of 1947.

For the Philatelistas:—CE4EPB, Sergio Lainra, Casilla 27, Paranal Chile, South America. Mr. S. Sheldene, VK2VSP, has sent to me active on 50 Mc. from Canterbury very shortly and is removing gear from his home QTH in Sydney for the purpose. ON1HC is on 335 Mc. daily from 0500 to 0700 GMT endeavouring to contact VKS and ZLAs.

W. H. Tandy, up-to-date on the progress in Fiji:—VR2AD, 2AN, 2AO, 2AP, 2AQ, 2AT, 2AU, 2AY; all active on 28 Mc. and all located at Nadi Airport; 2AR Lucaus Bay, 2AX Lucaus Bay, 2AW Suva, and 2AS the QSL Manager, Stan Mayne, Box 184, Suva.

Jim Wetherell (G5UB/P) left Sydney for VE/W on 4th February and will be on 7, 14, 28 and 50 Mc. Jim hopes to give the "Six" gang some time to get used to him and his methods. He will be able to work to 50 Mc. calls on any of the four bands if anyone desires or conditions demand a crossband contact. He will be returning to VK from W/VE in a few months and the same opportunity will again exist. Jim is always on the Ham bands around 1000 GMT.

NEW SOUTH WALES

NEWCASTLE ZONE

3RZ is doing good work on 14 Mc. and worked 2GU—2ZS, 2MC, 2AL, 2AM, etc. on 14 Mc. 2US has 30 ft. mast up, won't be long now, 2PQ has new shack and promises himself a 28 Mc. rotator. 2TE with a new welded rack is going ultra-modern. 2AFM is changing from series to plate modulation. 2ADIX has been working on 28 Mc. for the band to really open. 2ADX going back from V.L.O. to crystal. 2ADIX in Maitland is putting noise signals into Newcastle on 28 Mc. Congrats to 2ID on 14 Mc. section of the VK DX Contest. 2AMM is on 14 Mc. from New QTH. 2XL is interested in radio too. 2MC, a new Ham, is putting out a nice signal on 7 and 14 Mc. 2CI helping the new boys a lot. 2AMU getting some fine DX. 2FP has been away on holidays.

WESTERN ZONE NOTES

Congratulations to Mr. Freddie of Dubbo with new A.O.C.P., will both be heard shortly. 2H is busy revamping Receivers for various members. 2WH has one of the above mentioned BC348s and is still working. 2N has been a new 2A and now receives a new receiver; where do they come from? 2ACT operated portable in the mountains while on holidays. 2AMR has completed the shack and is having his C.A.C. 2H has been reported on 7 Mc. 2TG and 2AL, 2L, 2G, 2ME, are still plugging away at DX C.A.C. 2EL, an old timer, has been heard again. 2L still on 14 Mc. chasing DX. 2EX working 7 and 14 Mc. bands with varied V.H.F. equipment. 2AH has just returned from the rig and has a new ARS. 2QA has a new speech memo (no one would have known). 2LY allowing two weeks of his holidays to complete receiver. 2LY, with 50 Mc. beam on VK3, wants one to catch up with him. 2AO going on 50 Mc. also. 2LZ still on the V.H.F.

COALFIELDS AND LAKES ZONE

2MK broke out on 7 Mc. again or should the propositions be reversed. 2PZ used his holidays to re-organise shack; with 2XT toured Newcastle shacks collecting more gear! 2EF on 14 Mc., "rock chaser" has been heard on 14 Mc. 2EY on 14 Mc. 2KZ firmly convinced no Hams in Vermont on 28 Mc. phone, nearly prepared to give up idea of W.A.S. 2ADX appeared on 38 Mc. from 166 Mc. after working with 2TY, both common others and using 2TY's antenna. 2EY, even though 2OC busy on new 28 Mc. rig with special allowance for 21 Mc. 2BU with a new four element beam on 50 Mc. turns it on the line transformers to turn them into AMU 2W with a new receiver. Zone 20 (2YL) has taken a holiday. DX members hope for a speedy recovery. 2ADT back after six weeks' holiday; unlike the DX, the good ones all got away.

VICTORIA

The monthly meeting of the Division was held at the Melbourne Technical College on the 4th February. Visitors introduced and welcomed were 2EB, 3AZ, 3ME, 3CU, and 6DX.

Following a suggestion by Mr. Marshall, it was decided to develop an informal discussion group at the Institute Rooms on the last Friday before each general meeting. The first of this gathering proved to be most successful and was especially appreciated by those members who remain in the City on the night of a general meeting.

A number of the items which had been accepted for the Agenda of the State Convention was given by the President, Mr. Cunningham and further items were then submitted by members. A suggestion of showing some mark of respect at the annual meeting of the Association which has passed on way sympathetically received and the Federal Councillor was requested to refer this matter to Federal Executive for consideration.

Mr. Neil Smith was introduced and provided an interesting demonstration by means of a graph to be used in determining ionospheric predictions.

It is hoped that Mr. Smith would be able to go more fully into the subject for the benefit of members.

The State Convention, at which approximately

50 members were in attendance throughout the day's proceedings, was held in the Institute Rooms at Queen Street, Melbourne, on 7th February, the Divisional Zones being represented by Mr. Bruce

Mann (2BM) from the North Western Zone, Mr. Howard Wolters (2YV) North Eastern Zone, Mr. G. Weynton (3XU) Western Zone, and Mr. W. J. Kinella (3AKW), Lubbeck; H. D. Doblyn (3MF), Mildura; R. N. Whalley (3WZ), Wangaratta; G. S. Vincent (3AGV), Colac; R. Tandy (3EX) Colac; Mr. Potts (3ZC), Mildura; W. H. Barber (3DX), Kilmore.

Mr. R. Cunningham (2ML) presided and addressed the Convention; "the object of the Convention being held was to direct Council activities for the following year, as well as to consider plans and formulate policy for the future." The meeting, "As the Victorian Division has a very strong country membership, the Zones should have an opportunity of voicing their opinions on administrative and other matters concerning the Convention that the representatives can do so."

The Agenda as presented for discussion contained 29 items and of these, the items relevant to the Zones were grouped for purposes of general discussion and representatives spoke in turn on behalf of their Zones.

Arrising out of these discussions has been the decision to form a new Zone within the Division and it is to be known as the "Far Northern Zone." This zone is to be centred from Phiaris to Nyah and takes in Mildura and Ouyen.

From the comprehensive list of items debated seven of these have been put down for inclusion on the Federal Agenda and the remaining items made that the attendees of the Federal Convention be invited to the Editorial in QST of December, 1947.

All remaining items were fully discussed to some length and at the close of debate on all matters the Convention terminated at 6.45 p.m.

Intimate details of the proceedings and motions were fully broadcast from 3WI on the Sunday morning broadcast of 13th February for the interest of all members.

Finally, on the Melbourne side of the Convention the first "Ham Fest" was held the next day, Sunday, 8th February, at the National Park, Yarra Bend, and with Melbourne weather at its best for the social occasion members and families enjoyed the outdoor activities. During the afternoon a formal programme and novelty races were held for the children and adults, handsome prizes being provided.

T.A.C. MEETING

At the January meeting of the Committee, activities during 1947 were discussed generally. Among the suggestions put forward was a request for a practical summary of the published ionospheric prediction data, to be presented in a form which if of sufficient interest could be made with, at least, provide sufficient information to readily assimilate form for amateur use. T.A.C. expect to be able to supply this information during 1948, both for publication in the magazine and for broadcasting from VK1KN.

V.H.F. Group

At the January meeting of the group VK2KI and VK2NP were present as visitors, and were able to give an outline of v.h.f. activities in the N.S.W. District. VK2PM and VK2PQ also attended. SCR523 receiver and this was examined with great interest by those present. The v.h.f. group meets on the second Wednesday of each month.

RECEIVER GROUP

At the January meeting the group tracking problems in superheterodyne receivers were discussed. The uses and limitations of the theoretical formulas were commented upon and Mr. George Neilson described suitable practical means of adjusting a receiver to obtain maximum tracking points in the tuning range. Tracking problems at very low and very high frequencies were discussed and the necessity for correct design of the aerial coil to suit the antenna used was mentioned. The receiver group meets on the fourth Wednesday of each month.

FOOD FOR BRITAIN FUND

At the last general meeting of the Division a collection for the Appeal was held and yielded the sum of £115/5/- The balance the total receipts to 3/1 under £250 since the Appeal commenced in April, 1947. Total expenditure on food parcels amounts to £201/9/11 which represents 325 parcels. Funds are still in hand with a balance of £48/7/11. The Committee wish to thank SCN, 3JK and 3BP for recent generous donations. What about some donations from the Eastern Zone? Gratitude.

CENTRAL WESTERN ZONE

Zone hook-up last month was notable for its short and snappy procedure. Apparently there was a State Convention on in Melbourne so only two stations were on, 3DZ and 3WZ. The big news of the last four or five weeks has come from 3TA and 3WC in Horsham with their reception of 50 Mc. s.s. from KHZ and W in addition to ZL. The most surprising part of it was that 3TA was only using a plane antenna two waves long straight to his antenna

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terminal. Byron uses a Kingsley Converter ahead of an AB7 and Claude a double conversion super 6AK5 to a ECH3 to 10.7 Mc., then to 455 Ke. Claude is also building a 100 watt Transmitter for 50 Mc. and we hope so much he will be on the air when the band comes good. Yester scribble is getting excellent reception also from the local doctor's diathermy machine about half a mile away.

There is no doubt that fashion moves in circles. Heard 3LJ from his studio, with "SON" our Saturday night show and we were amazed when Kevin mentioned he was using an E406 in a Hartley oscillator with 6 watts and believe it or not, LOOF modulation. "Gremlin" please note what you are doing. However, quality was better than others heard on the band.

3XO has erected a three element beam for 50 Mc. and is building a transmitter and converter for that band. 3IQ has a second beam for 50 Mc. and Jackson has a beam in Melbourne.

3DP is busy in a new shack, and when everything is finished and Jim gets his AT5-ARS combination going, he will have an FV set-up. 3AKR is a present holder decked out with points, and Anna Keith when you hear makes the juice that makes the QRM. However Stawell is due for further QRM as two of the locals are busy swotting.

Apart from the beautiful diathermy notes heard on 3LJ, the most interesting news I have worked LU4JMN on 14 Mc. so after nearly 10 years trying has at last made W.A.C. Incidentally LU4JMN had I suppose what one might term a 1925 note. Well going's that all for now—see you next week—Sunday, 7th March, 10 p.m. on 7050 Ke.

NORTH-WESTERN ZONE

Delegates from the N.W. Zone got together at the State Convention and settled our difficulties re transports and communication. Delegates widely separated from the last Zone meeting divided the Zone into two. The new "Far North-Western Zone" is beyond a line from Pinjarro to Nyah and takes in Mildura and Ouyen. Kerang, Swan Hill and Sea Lake are the main centres in the N.W. Zone, not to mention the many smaller towns.

3TLI has had an operation followed by a couple of weeks in hospital, but is now home and was last reported in bed building a v.t.o. 30A is working D.V.D. on like nobody's business. The new work is OK. He built with new receivers and intends to rebuild the modulator. 3CIE is at Portland with family enjoying a well-earned holiday. 3LU has moved to Quambatook for some months but has not got on the air from the new location so

far. 3HR is rebuilding. There was much Ham talk when 3LU, 3BM and 3HR got together unexpectedly in Quambatook P.O. recently. Clyde Case (2nd Vice Pres. of SCH) now has a ticket and his wife is a Ham. Mr. and Mrs. John and Wal Loveland, are hard at 15 practising the code. 3BM (with XXL and three junior ops) is at Edithvale on holidays. Is working on design of triple detection crystal-controlled single-sideband receiver. Attended the State and Maffra Conventions recently.

QUEENSLAND

Nominations of office-bearers for the ensuing twelve months formed the main item of business at the January general meeting of the Queensland Division. President (4RT) was re-appointed with Secretary (4RT), Vice-President (4ES) also on the official date. Mr. P. Kelly (4KB) who has held the position of Federal Councillor for the past twelve months advised the meeting of the invalidity of previous election of Federal Councillors. This previous meeting was a mistake due to the fact that no Federal Constitution was at that time in the hands of this Division. Nominations were again called for and F. M. Nolan (4PWN) and H. M. McGregor (4ZU) were elected. Both were then duly appointed to the who represents this State at Melbourne at Easter.

The President then called for nominations for office-bearers and was speedily nominated for the chair once again by 4KB, seconded 4FN, and Vice-President 4KB was nominated by 4FW and seconded 4TH. The retiring Secretary 4RT had the pleasure of seeing 4XG nominated for his position by 4HR, seconded 4ZU. The retiring Treasurer, man nominated was 4SV, who like 4XG, is a member to the Council, nominated 4KB, seconded 4XG.

It was decided to create another position in the QSA Department, making separate jobs of inventing and development. The separated were 4EN and 4AR while for Library Manager 4LT and 4WF were nominated. 4LT later declining because of election for another position—that of Publicity man who look forward to VR4WI becoming with the pleasure of 4AR. 4AR was nominated for the job of Station Manager. As before Country Representative will be 4SN, and "A.R." Sub-Editor, 4ZU. Another new face at the Committee table will be 4LW the new manager, recently returned from overseas. 4RT moved that a new post be created for an "Associates" Member Representative and the following were nominated: 4KP, 4TB and Mr. K. Robinson. The attendance at the meeting was quite large, being

in the vicinity of forty-five, so the new Council is likely to be representative.

Agenda items were called for and 4KB moved that amateur Diaper expenses should be paid on a per capita basis by all Divisions. To assist the Food for Britain Appeal an inland tray, raised by member Mr. F. Barracough, was raffled and yielded £5/15/- toward the Fund. Thanks, o.m.

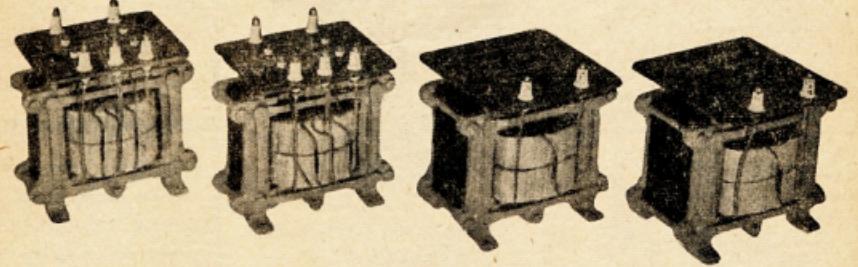
In the short time available, a considerable amount of time, no lecture was presented, and the meeting closed with the usual rag-cue around the coffee urn.

SOUTH AUSTRALIA

The monthly general meeting was held on Tuesday, 10 February, and a capacity audience was present. The weather was hot and decidedly "sticky," which was an asset in one respect as the few members who stayed away on account of the heat could have crammed another one into the hall. Mr. Roy Bucklefield (3DA), assisted by Mr. Capell, lectured on "Some Aspects of F.M. as Applied to Amateur Radio." Fortunately for me the lecture contained a great deal of interesting film on tape plus an unusual amount of blackboard explanation and therefore an attempt to rewrite the lecture is almost impossible under those conditions. Suffice to say though, that with the help of regional lectures and a never failing turn up the goods A vote of thanks was proposed by Warwick Parsons (5PVS) which was received with acclamation by all present.

Amongst the visitors were Messrs. Phillips, Lampre, Jackson (YADJN), Mayman, Fowell, Ultrap, Bassett, Warren, Wool, King, Rodgers, Peters and Jameson. Visiting Hams included Graham Pitt (5OP), Harold Weber (3PW), Bill Barber (6UX), and last but not least, Mr. and Mrs. G. L. Anderson, whose arrival caused quite a ripple of excitement among the "wolves".

The meeting was decidedly enlivened by Ted Cawthron (5D) who rose during general business and had his customary "rave." Ted does a good job at this and will in time be the cause of several over Hams getting on their feet and having a say. This is a good thing and should be encouraged. Although Ted tackles his "wings" from a humorous angle, he is a good speaker and a good Ham. Amateur Radio in particular, than a good many, and nobody has done more for the up and coming Ham than he. Ever ready with advice, both theoretical and practical, he is a typical Ham and everyone will readily admit that his "wings"



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are more often on the target than off, and his main quality is capacity for "taking it" as well as "dishing it out."

The communications officer for VK5 respectively ask that all VK Amateurs endeavour to keep the frequency of 7055 KC. clear on Mondays and Fridays between 0.15 and 0.30 p.m. Add your time to that of the phone stations. When it is realised that this frequency is used as the official communication channel for VK5 at the above times the importance of this request will be understood by all.

At the moment of writing the "wireless" blurb tells me that the magazine is not out in VK5 again, but as the magazine is not out in VK5 as yet, my hands are tied. From observations on 7 Mc. the finger of suspicion points to "Doc" Barber and my respected Editor. I can do much about Tom, but "Doc" is in gaol if you like.

The W.I.A. representatives on the VK5 Advisory Council are as follows:—E. Barber (SMD), G. Bowen (3XU), R. Gale (3QR), T. Laidler (3JL) and E. Cameron (3JL). The non-members represented are J. H. Smith (3JN).

The Technical Committee comprises the following:—E. McGrath (SMO), F. Wreford (5DW), Roy Bucknerfield (5DA), R. Smythe (5MF) and Pete Bowman (5FM). This represents probably the pick of the VK5 Amateurs. Each in VK5 and I hope should hesitate to seek their advice. They are all good fellows and easy to approach, but they are not psychic and therefore don't know who wants advice and who does not. If you feel nervous about them, consider this, and you will be only too pleased to give you an introduction.

VK5 Hams were tickled pink to know that Charlie Chest (5CR) was the "Wyatt Earp's" first contact. Whilst realising that this was probably no more than a "teaser" it's nice to recall a little "Thunder" from the "wise men of the east."

To clear up any misunderstanding regarding Ross Kelly (5LW) operating portable at Cape Jaffa South East, A.S.T. it was reported that he was only 8 feet. After all who ever heard of a shark being over 100 feet. Strange places Ross gets to with that Type 8 Mar II. If your receiver suddenly gets blocked with chaff just don't pull it to the bottom without checking outside. Ross may be working portable in your chicken house.

All Smythe gave up work to "scary bricks" recently. He spent his well-earned holiday putting up a new 28' x 14' Mc. frame light antenna for the amateur station. The 28 Mc. beam is in the sky and the front to radio trice reception is second to none in the State. The power levels in his vicinity (almost inaudible on a single wire antenna) are not so poor either.

The point lies at Max Farmer's (5GF) QTH has been lighting him for so long that Max has adopted the slogan "if you can't beat the racket then get into it." Therefore over the Xmas period the "racket" was heard in the distance, running point with electric drills, spot welders, hammers and many unprintable words. When the smoke and din cleared away, lo and behold, into being had come (carefully planned and all) a swanky 50' x 14' frame (5GF) which is a beauty. It is built in modular and all mod. cons. It is not certain yet whether Max is going all commercial or trying to punch 5GF's handle of "Pansy."

There is in VK5 a Ham who has a call sign, paid his initiation fee and has a W.I.A. book, has more gear than the Eskimos own ice, and all and all is as good a bloke as one would wish to meet. The name! certainly, Dick Scott (5RU). The catch is that not a soul in VK5 has as yet crossed paths with this wiz. Let him have you, Dick, or should I say "Open the r.f. Richard."

Having been blamed for most things, I am getting in early by telling Jim Sullivan (3JK) that had nothing to do with the new regulations handbook. A simple paragraph changes from "plain language" to "plain English. It's a darn shame Jim, that from now on no more "Spanish" and just when your star pupil E. A. Charles (3YQ) was coming along so well. Now, dear Jim there are almost three inexhaustible subjects of wireless and qualities of microphones that can be discussed at great length on 14 Mc. when the DX is not on.

The Burmese boys are frantically erecting 66' feet galvanised iron towers, and that shows where the word "tower" has been passed around. That Gordon Bowen (3XU) has placed the last dry joint on his high power rectifier unit will which will feed the "soup" to the 808 final. If Gordon experienced as much trouble as I did, I feel he will be in his new rig as he did with the house outfit the boys will have no trouble in pronouncing the galvanised iron as it will be off the restricted list by that time.

The VK5 Hams had a very sharp day today, the morning and part of the day was consisted of a couple of teleprinters mounted up in a departmental store, connected to the Military Parade ground. Messages were swapped between these two stations and the public is supposed to be suitably impressed. "Wick"

(5WM, "Bendix") to you noticing that the operators were using what appeared to be amateur abbreviations said to one of them, "Ever work any DX on these gadgets?" The operator looked at him and not wishing to appear ignorant said "Not at all, but we have one or two of them down at the parts yard." They tell me that the shop workers had to throw two buckets of water on "Wick" to revive him.

Strange are the workings of officialdom, when newspaper space was unlimited this Institute was having a very hard time getting published its weekly column in the local daily, now that space is at a premium, no trouble is experienced to get all we want every Thursday's issue. Wouldn't it!

The young members have remarked somewhat that they did not think their teacher much about the Morse code for the A.O.C.P. as it would be cut out of the examination before long, certainly has revised his opinion regarding the code after seeing how marks the examiners examination techniques.

Yester "RE" HIGH is a very busy O.

Members learnt with deep regret the news that Lance Coombes' mother had passed away, and all extend their sincerest sympathy to Lance and his mother. V.L. Tex-5WS is the author said. Mr. Coombes' sacrifice over the years was well-known to all Amateurs, her life of service was outstanding, and she will long be remembered by all for it.

Another sports day has come and gone and full credit must go to McAlister and all the others who made a grand day's work. The attendance was rather disappointing, but the infantile paralysis scare was naturally to blame for this. The weather was also very hot, so all in the day was a huge success. The cost of the day was £7.75, although £15 was received for expenses so that all must feel very satisfied. George Bruce (5GB) did a good job with his p.a. Max Farmer (5GF) and Ross Kelly (5LW) had a splendid aerial array of gear on display and all those who had a chance to witness a success deserve the greatest praise. The highlight of the day was the opening address by the Hon. Secretary Doc Barber (SMD) which was picked up on 7 Mc. and relayed through the p.a. system. The speaker was Doc, but I am not very keen on Doc's voice. I would rather get a letter from him any day. I have been battling to get one from him for years, but so far no good.

It is a story of a young associate member who upon hearing that there was a possibility of his disposal gear being available, sought a personal call at the Hon. Secretary's (SMD) QTH would achieve better results. Arriving at the said QTH and being uncertain as to which door was Doc's, he knocked on the biggest door he could find. A gentleman in a nice new uniform answered the door (the butler presumably) and the associate member said "good day, is this the place where one gets cheap radio parts?" "No," said the butler, "this is not the place you come to if you are silly enough to buy 'cheap' radio parts." You don't believe it, well please yourself.

Being a c.w. and phone man myself, nobody can accuse me of being one eyed, but the over indulgence in words of some of the members on 14 Mc. is getting over the fence. Taking fifty words to explain a point when three would be as good is becoming the accepted thing. Perhaps it is a good thing that there were no phone Hams on Yester "Victor" as he has now informed me, "England expects that every man will do his duty" what will have been sent as "England anticipates that with regard to the current emergency, personnel will duly implement their obligations in accordance with the functions allocated to their respective age groups."

The VK5 delegate to the Easter Conference will again be "Doc" Barber (SMD) and Frank Wreford (5DW) will be his alternate. Dr. Ross Adler (5AJ) has been appointed to the VK5 Council together with Jim Paris who will be the associate member's representative.

WESTERN AUSTRALIA

Opposed to the Annual Meeting being held on the third Monday in February, many tried to make themselves not available. By the time this paper appears the new 1948 Council will have been elected. Great interest has been shown this year by the members in choosing their new Council. More nominations than ever were submitted and a ballot was necessary. We feel sure that this fare will be well for Amateur Radio in VK6, assuring us of a very healthy future.

PERSONALITIES

VK6QF, congratulations o.m. on being the first VK6 to work the United States. We hope you will bring a new country for you. A thx effort QRM RGM by a canary is Bill's background these days. "Mike Bakers" Canary is the watchword. 6SH: Harry has quite a fine set up in Albany. A nice rotary transmitter, a fine receiver and good antenna. 6LW: Getting R.F. results down on 50 Mc. and 144 Mc. Wally will be one of the first VK6s to work interstate. 6HW: One of the State's well-known

Hams, and despite a noisy QTH still gets on the air.

6K6Q: A very nice contact for the 7 Mc. Index. Alan, the operator, does a t.b. job, and we believe has now turned 6MO v.t.o. 6DX: Bill has been away visiting VK2 and VK3, and we guess absorbing the expertise of these wise men. This station has been on on 5 Mc. Since his return with laundry. 6FD: Likewise seen in Perth working on Mc. Boulder seems to be keeping on the map these days. 6FD: Len made a visit to Perth recently and acquired some new gear to help the signals from Dunsborough, C.Y.C. Publishing a 12 ft. signal with wags from Geraldton. Keep on the good work Cyril. 6WH: Heard calling Beard Island recently on 7 Mc. To me, "You're right" is a pretty big O.

6VK: Has been giving the air of Merredin a rest again. Holidaying at Rottnest Island, has been f.b. according to Mal. 6AH: Our VKG of Wiluna fame has been busily and has not been on the air so much. Stan has usually a f.b.

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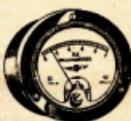
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Austria, OX3SF and 3RD Greenland, LA5OA and UVA. **Norway**, Q5NN Finland, OK2DD and 3AL. **Czechoslovakia**, DTJN. Germany were all added in the hope for QSLs.

Asia.—The rarest ones were EP1FL Iran, V8SN Aden, GRHAN Macao, ZU2EXQ Costa Rica, OM2AZ and OM2B. D7W and 3AF Palestine.

Central America.—ZU2EXQ Costa Rica, OM2AZ and OM2B.

South America.—LUTGD Argentina was worked one evening about 1730, although PY1AJ and IHA in Brazil were chased for a few nights without success.

Africa.—A few interesting chaps were met in VQ4RAW Kenya, MD11 Tobruk Libya, CN5MI Casablanca, French Morocco, VQ5AB and SAE Mauritius, MD2U Tripoli were the best.

TASMANIA

Holidays again took their toll of attendance at the February meeting, with a total of twenty-four, but there should be a decided rise at the end of the month. The annual dinner is once more upon us and the festivities are to be continued next day in the form of yet another D/F'ing day.

3GB visited us on this occasion and was able to resume VK7 rag-chew which began in the days when most of us were hanging the old man's pet crystal detector on the side of our cut. So it is seen.

The intended lecturer could not get along at the last minute, and his place was ably filled by Alan Morrisby, who took us on an intricate blackboard tour around a 3-channel carrier system.

These D/F'ing days come thick and fast in Tasmania. They are usually the days of having a picnic, but the boys are getting on to the transmitter so smartly these days that we may soon just as well have the picnic and leave the transmitter on. The most recent one was held on Sunday with Jim and myself. 70W took the rig to Piccupy Lagoon, about twenty miles away by road on the east side of the river. Well-known cans have been a give-away on previous occasions, so Crosby borrowed an A Model Ford and used a well-hidden invisible aerial just to make things a bit harder.

Anyways, 71L and Barney Watson got home within a few minutes of each other, the latter winning points through having done a few miles less than 71L. Jim's plane soon became very popular with quizzing loops. Present among the boys was EB, who was seen to spend some time investigating a nice healthy looking aerial at the bottom of which was a box, a dud bottle and the legend: "This is NOT A CAN."

71L took 71Y's receiver for a lengthy trip around Lewisham and other large tracts of country, but charitably blames himself. Bad luck dogged the chap who broke an axle—oh, it's red-blooded game, though—but he had a spare on board and wisely continued his journey. The boy who, being a motor mechanic, was certainly the right man at the right moment. We are pleased to record that 7CW's stratagem of using an old car was rewarded by a puncture on the way home.

Ferry ("Siber") Connor is back with us, filled with stories of his experiences of tarantining his trip to ZL and back to Sydney on "Kurewaa III." 7CUT mobile did not operate for lack of 11.5 Mc. crystal, but in spite of salt water and battery troubles, the electrical sheds were kept very night, going and coming.

NORTHERN ZONE

This month we have little to report having been over in VK3 portion of the period and consequently having less time to go snooping around our members' stations. Work is however quite good at the present rate. I will have to advertise for an assistant so as to be able to cover the rounds in the allotted time.

This month we welcome to our ranks still another member, Mr. Ray McLean, of commercial station 7LA. Having successfully passed his code and regulations, he expects to be on the air immediately he gets the OK from the P.M.G.'s Department. The only visitor to the Zone last month was Mr. Bill Stevens (VK3CB) who is at present holidaying in Tasmania.

The W.M.A. monthly circulars published in Hobart are well received in this Zone and are a big help in keeping our members informed of the various activities of the Institute at State Headquarters. A recent circular concerning suggestions and regard to the forthcoming conference caused much discussion amongst Zone members and some suggestions were forwarded to Hobart for discussion.

The activities of our various members have not deviated markedly from those noted in previous months except that TRK now goes up the early morning DX on 14 Mc., 7BQ, 7GD, 7LZ and TDS are all following along their beaten tracks. DX this month has been rather poor. A few new contacts have been made, 3V3 being J3/1, K6GAW/VK8, 2W2WV/CN, F4EJL/JN, MD1L, XX2KN, CESAW, WO2CTV/VR1, VS4VE, VS4WL, U18AB, YP9D, HS1LA, OX3MG in Kangaroo Island and a few UAs.

FIFTY AND UP

(Continued from page 20)

absence of 4AB, 4CU and 4KK have signified their desire to try and establish 50 Mc. links with Britain. Glad to hear it e.m.t. 4BY is rebuilding with new 822 type receiver, 14 and 28 Mc. exciter, etc. 4ZL and 4MB are busy digging up odds out of craters. 4BT and 4JR are active on the bands. 4VN is getting much better quality out of the 50 Mc. transmitter.

From our good friend 5JD—SNG's forty watts certainly goes places! A v.h.f. listener recently reported excellent reception from the verandah of the "Old Spot." The listener's rig consisted of a 50 Mc. receiver and a 50 Mc. transmitter mounted on the corner of a motorcyclette. Incidentally, the "Old Spot" is located about 15 miles from Adelaide and is well down in a gully. 5KZ is heard now and then. Not up to his old standard, 5GD has a few QSOs now and then. 5GA is an amateur radio hobbyist with 'em with co-axial antennas about 6 ft. from the turf. As soon as Doc produces the co-ax cable there will be another transmitter on the band. 5SU removed the 160 Mc. antenna from atop the tower for working on the 50 Mc. band and is out replacing the antenna. 5JD signs as usual, is awaiting the pleasure of the local timber merchant—wants to get on the beam.

Since our last notes, several new stations have made their appearance on 50 Mc. in VK6. 6FW is putting out a very 1b. signal from his new QTH. The 100 Mc. band has received considerable attention on the band and has been working with Perth and Albany but no success so far. 6WH has now a receiver on 50 Mc. and can be worked cross-band on 7 Mc. 6EC, of Mindarie, broke through to Perth (141 Mc.) via 3LZ January 1948 and 5.5 Mc. and was worked cross-band by 6HM on 50 Mc. from 2040-2155, Eric's v.e.s. signals running 54.5. These signals were also heard by 6HM who was not able to QSO as Charlie had no 7 Mc. transmitter. Unfortunately 6EC has not yet finished his 50 Mc. receiver.

A further cross-band QSO took place on Sunday, 8th February, from 2105-2305; Eric's signals this time being 56.7. 6GB reports having heard 6EC on 1935-1950 Mc. and again at 2015-2025 Mc. Interestingly, 6GB uses 36 ft. wire to ground a loop—until you put up a beam Eric still no trace of eastern states' signals in VK6 despite constant nightly watching of the band by several VKs.

For the benefit of all chasing W.A.S. on 50 Mc. the VK6s are usually on nightly between 2100 and 2300 hours E.S.T.

166 Mc. JOTTINGS

Things seem to be quiet in all states due to DX on 50 Mc. On 18/1/48 the Kingsford Club in VK3 had a 166 Mc. field day, quite a number of the boys taking part and some very useful information being exchanged. Works were made with horizontal polarisation, which would appear to bear out previous observations. One new station is known to be operating in VK2 on 166 Mc. in the person of Fred Carruthers (2PF) who is back again after a long absence. 2PF has now moved to the area of West Maitland, and 2HZ, at Tighe's Hill, are now on 166 Mc. which should mean much turning of beams to the northward in the hope of getting through to Newcastle and the Coalfields.

On 18/1/48 his 815 did not break out 2JK and 3VK in Wangaratta and 2WV in Hughenden, expect to be on soon. 3ABA is also on with a consistent signal. 3MB and 3TZ still run their "private phone." 3LH uses a 10 ft. serial with good results. 4EM gets out from time to time in phase 3 ft. high. 3LJ, 3LZ and 3NB are on the job.

In VK3 SNG was heard calling but he needs a new receiver to match his new transmitter. 5JD returned from holidays in Darwin where he got a few bits, etc. to improve his rig.

The N.S.W. v.h.f. group, at their last meeting were able to meet three or four reliable v.h.f. workers from VK2 in the persons of 2KI and the N.S.W. v.h.f. officer, 2NP. The latter provided a good insight as to the 166 Mc. doings in the Harbour City plus a valuable insight as to the temperature inversion effect on the 50 Mc. break throughs over ZL and VK.

USES A BOOT POLISH TIN!!

1400 Mc.—2DB had some 1400 Mc. gear in operation at a recent v.h.f. meeting in VK2. His field strength meter was a cavity meter made from a boot polish tin! He used a 4416 lightsource tube and there seemed to be quite a bit of r.f. there. 2NQ and 2FI also have gear but no contacts have been made. 3YM is still trying to get on 10,000 Mc. and is reported to be successful.

CONDITIONS IN ENGLAND

Now from ex-VK3RNW, Ken McLaggett, now G3CUA (temporarily) is to hand. Quoting from his letter:—"Five meters in 'G' land" is good but

methods are rather different from VK. Most of the contacts are straight c.w. No m.c.w. heard so far. We get good contacts up to and over 200 miles, e.g. G2XC, Portsmouth, 125 miles, is very good here at 86 though there are hills between. Almost continuous conditions of temperature inversion over this little island, called England. Never all goes fading away from London 50 miles, so obviously they are being bent. We hear 8s, etc., occasionally, though I have not worked out of G. Have not struck any Spur E but expect to in the summer. There is a good scattering of stations over England so that you get many varieties of contacts.

"The idea here is to work as many countries as possible. The keen blokes have 35 countries, but I have only 8 so far. The rigs here are much the same as at home; e.c. with a variety of p.a.s. 832s are fairly plentiful and cheap, so is v.h.f. gear which goes for a mere song. Our band is 50-54 Mc. and we have no trouble to work on 50-54 Mc. Me, I am also on 14030 and 14948 Mc. phone and would like contacts with VK."

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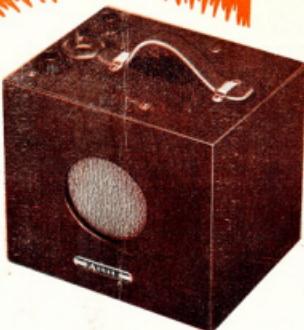
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